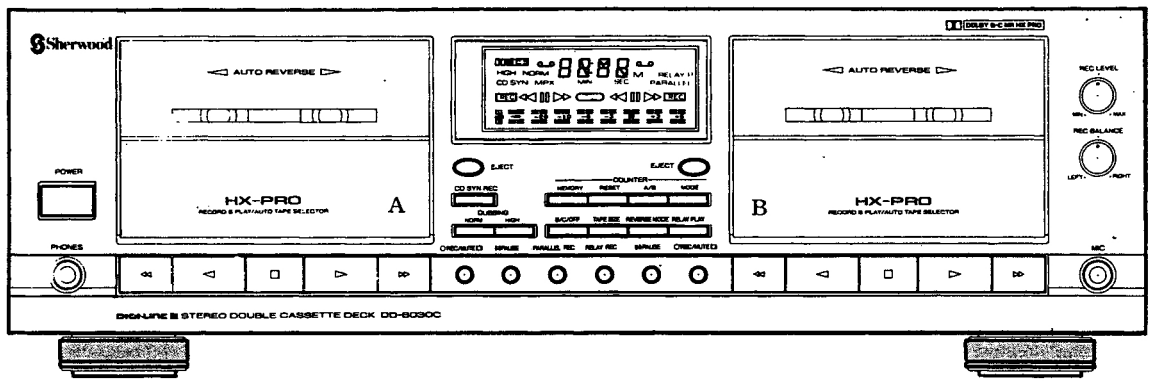
SERVICE MANUAL

DD-6030C

STEREO DOUBLE RECORDING CASSETTE DECK



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Sherwood

SAFETY PRECAUTION

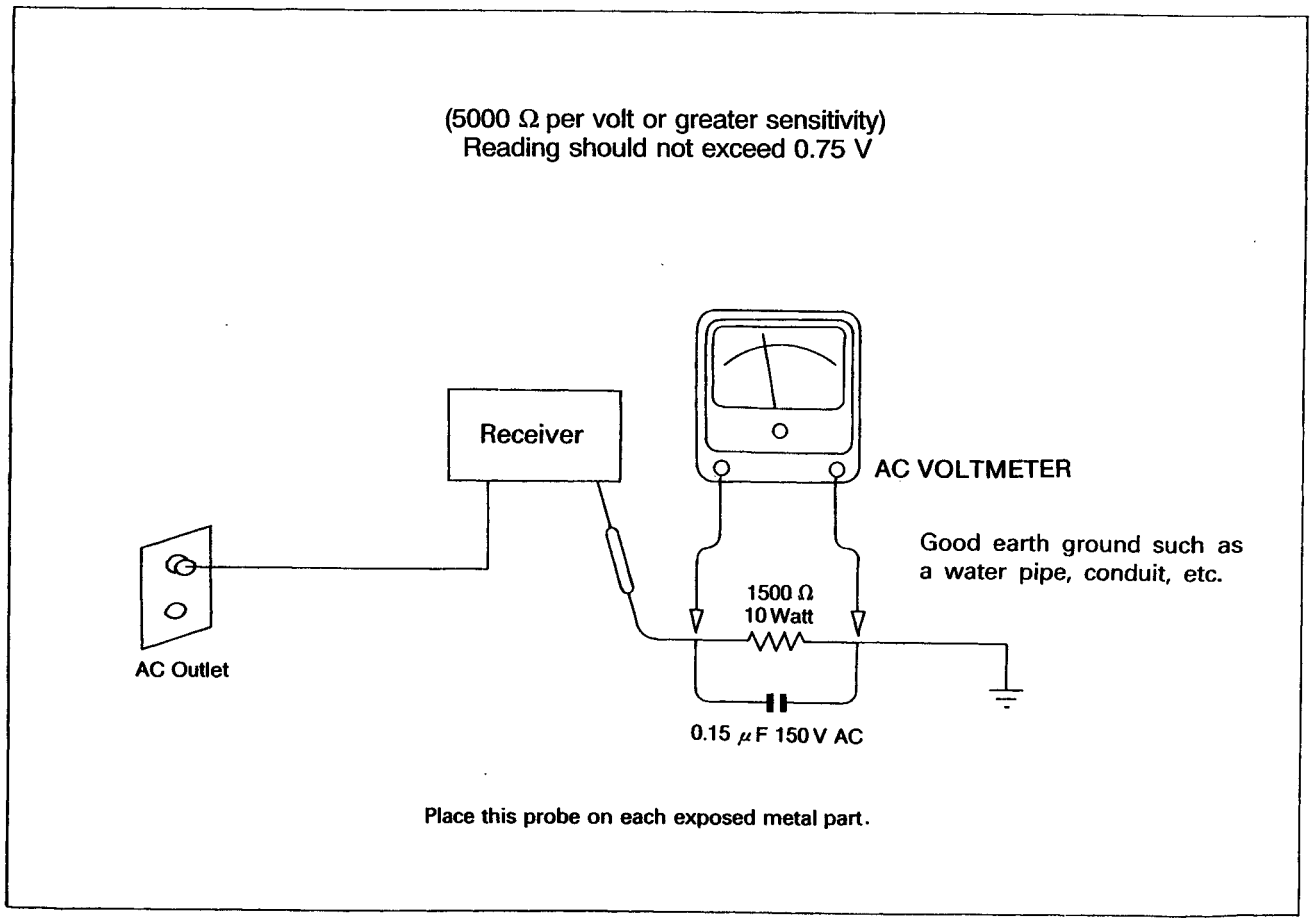
WARNING

Service Should not be attempted by anyone unfamiliar with the necessary precautions on this player. The following precautions are necessary during servicing.

1. Many electrical and mechanical parts in this player have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

   Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characterstics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metal parts of the cabinet, such as terminals, screw heads, metal overlays, etc., to be sure the set is safe to operate without danger of electrical shock.
   Plug the AC line cord directly into a 120 V AC outlet(**120 V AC version only).** (Do not use a line isolation transformer during this check.)
   Use an AC voltmeter, having 5000 Ω per volt or greater sensitivity, in the following manner: Connect a 1500 Ω 10 watt resistor paralleled by a 0.15 μF 150 V AC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metal parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metal part. Voltage measured must not exceed 0.75 V RMS. This corresponds to 0.2 mA AC.
   Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


(5000 Ω per volt or greater sensitivity)
Reading should not exceed 0.75 V
Receiver
AC VOLTMETER
Good earth ground such as a water pipe, conduit, etc.
1500 Ω
10 Watt
AC Outlet
0.15 μF 150 V AC
Place this probe on each exposed metal part.

SPECIFICATIONS

Track Configuration
The 4-track, 2-channel and rotary reverse stereo heads.
Recording System ..... AC bias system (bias frequency: 105 kHz)
Mechanism
1-Motor, 1-Solenoid Mechanism
Heads
Rec/Playback Head ..... Hard Permalloy
Erase Head ..... Double Gap Ferrite
Tape Speed ..... 1 and 7/8 IPS (4.76 cm/s)

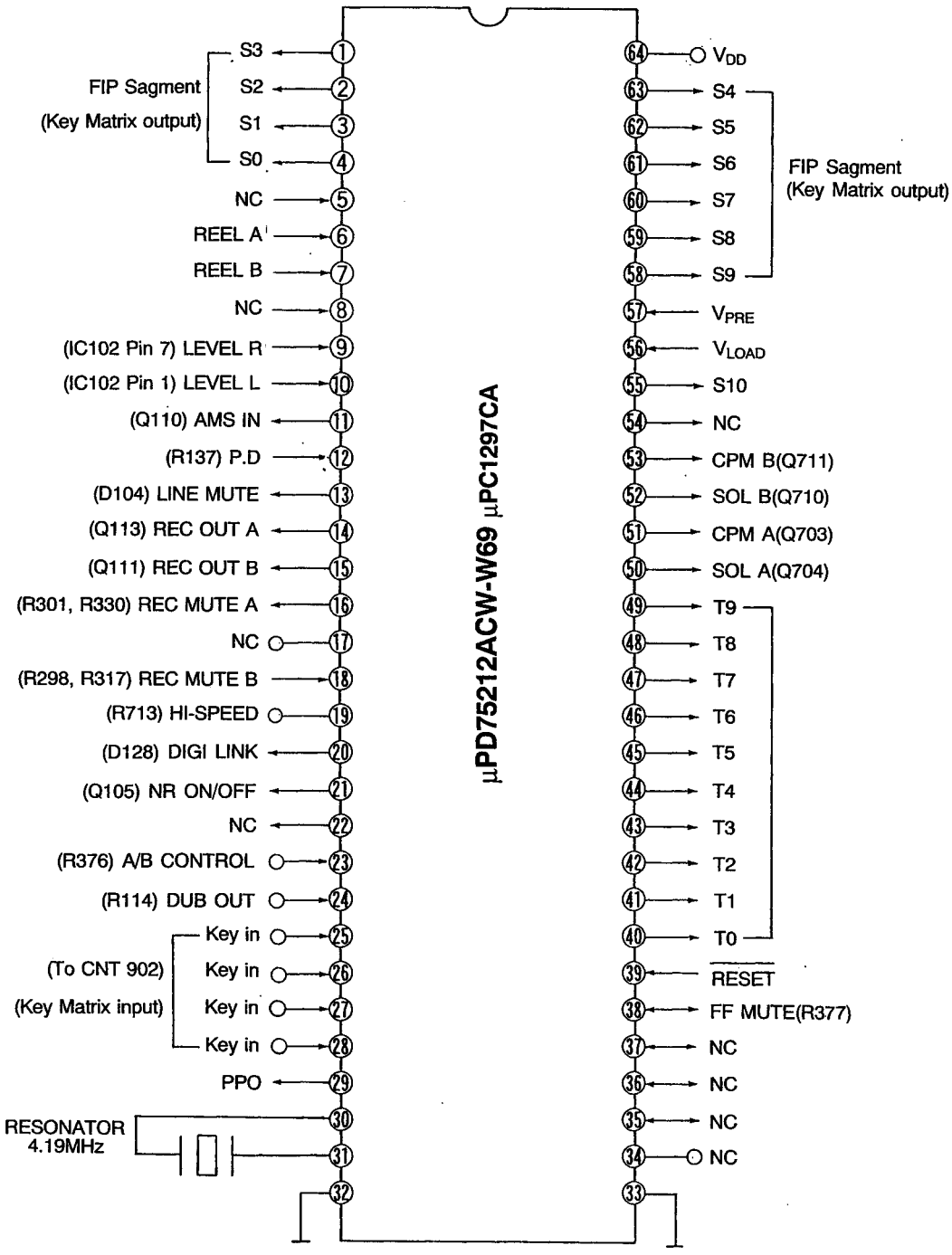
Wow Flutter (WRMS) ..... No More than 0.12%
Fast Winding Time (C-60) ..... About 120sec
Input Sensitivity Impedance
MIC ..... 0.5 mV/4.7 k ohms
LINE ..... 100 mV/47 k ohms
Output Level/Impedance
LINE ..... 500 mV/1.2 k ohms
Signal to Noise Ratio (W.CCIR/ARM)
CrO_2 Tape with Dolby B/C NR ..... More than 65/75 dB
CrO_2 Tape without Dolby NR ..... More than 55 dB
Frequency Response (-20 dB REC Dolby NR off)
Normal Tape ..... 30 Hz-17.5 kHz, ±3 dB
CrO_2 Tape ..... 30 Hz-17.5 kHz, ±3 dB
Metal Tape ..... 30 Hz-18.0 kHz, ±3 dB
THD(1 kHz, 0 dB REC CrO_2 Tape D3) ..... No More than 1.5%
Channel Separation ..... More than 40 dB
Power Consumption ..... 122 W
Power Requirements;
A : 120 V 60 Hz for American/Canadian Version
B : 120/220 V, 60/50Hz for Multi-voltage Version(switchable)
C : 230 V 50 Hz for General European Version
D : 230 V 50 Hz for German/Italian Version
E : 240 V 50 Hz for U.K/Australian Version
F : 230 V 50 Hz for Swiss/Scandinabian Version

Dimensions ..... 440(W) × 125(H) × 280(D)mm
17.3(W) × 4.9(H) × 11(D)inch
Weight(Net) ..... 5.2 kg(11.5lbs)

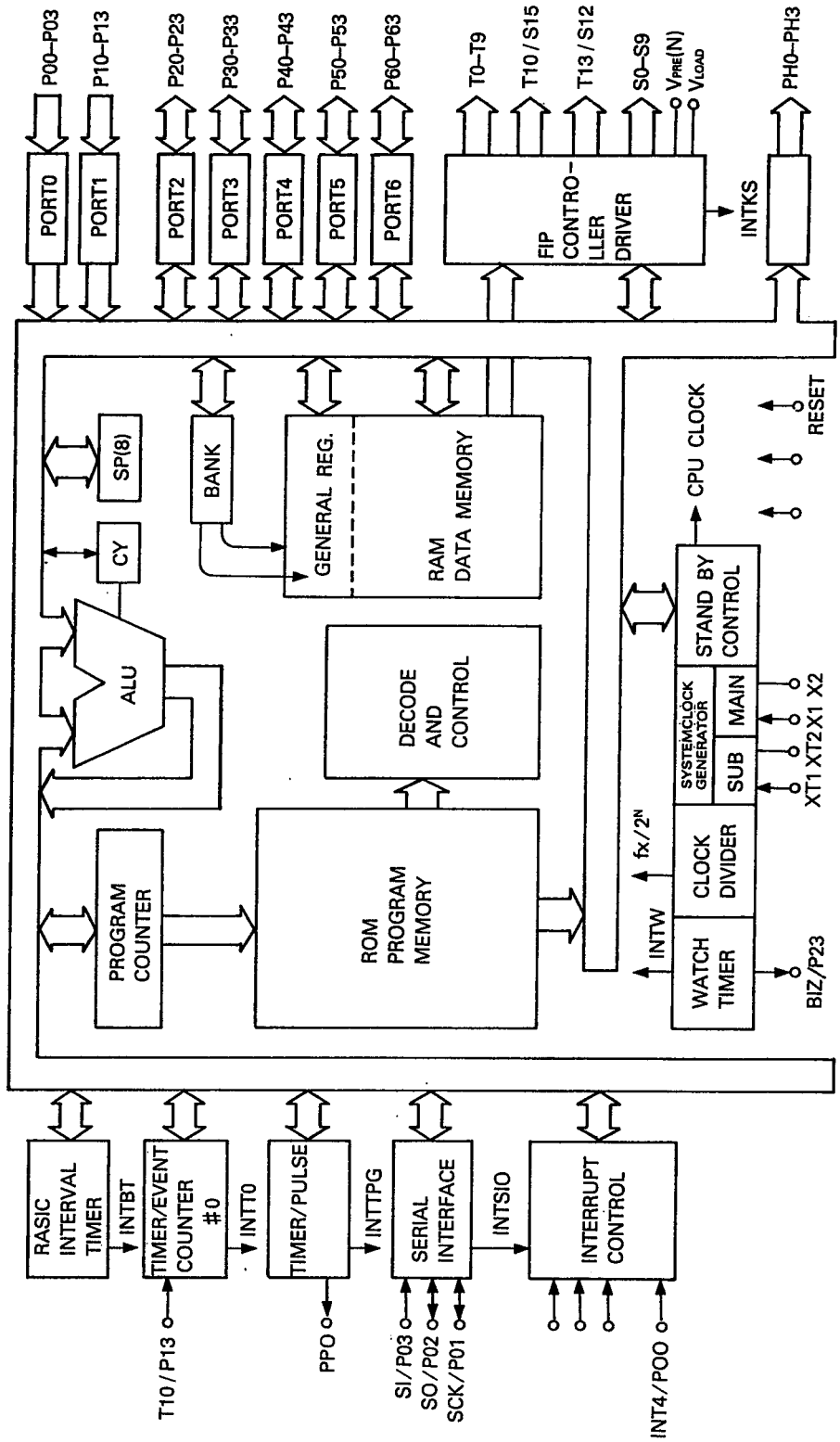
Note : Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the American(A) standard, and provides information on regional circuit modification through use of alternate schematic diagrams or wiring diagram, and information on regional component variations through use of parts list. Design and specifictions subject to change without notice for improvement.

CIRCUIT DESCRIPTION

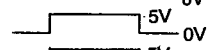
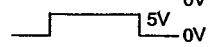
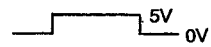
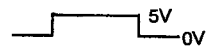
- Pin Assignement(IC 701 : μPD 75212)



INTERNAL DIAGRAM



Functions Assigned : IC701 μPD75212

No.	Terminal	Operating chart	Remarks
1~4	KEY MATRIX		
5	REMOTE CONTROL DATA IN		
6	CLOCK		
7	DATA		
8	GND		
9	IRQ		
10	POWER		
11	GND		
12	GND		
13	CENTER MUTE		
14	REAR MUTE		
15	FRONT MUTE		
16	SWITCH IC STROBE		TC9162
17	SWITCH IC STROBE		TC9163
18	DSP CD DATA CONTROL		YM7306C
19	DSP CD DATA CONTROL		YM7306C
20	DSP BK DATA CONTROL		YM7306C
21~24	KEY MATRIX		
25	VOLUME IND		
26	ELECTRIC V.R STROBE		TC9176
27	STAND BY		
28	MOTOR VOLUME DRIVER DOWN		TA7291S
29	NC		
30	OSC0		
31	OSC1		
32	GND		
33	GND		
34	NC		
35	MOTOR VOLUME DRIVER UP		TA72913
36	VIDEO/DSP FUNCTIONS LED DRIVER		MC14094
37	REAR SPKR CONTROL		
38	CENTER SPKR CONTROL		
39	RESET		
40~47	LCD DRIVER		
48	N.C		
49	N.C		
50~55	LCD DRIVER		
56	V_{LOAD}		
57	V_{PRE}		
58~63	KEY MATRIX		
64	VDD(+5V)		

Input and Output Terminal Functions

Pin	I/O	Description
P5(P00/INT4)	Input	These pins Can be used as 4-bit input port
P6(P01/SCK)	Input/Output	
P7(P02/S0)	Input/Output	
P8(P03/S1)	Input	
P9(P10/INT0)	Input	These pins Can be used as 4-bit input port
P10(P11/INT1)	Input	
P11(P12/INT2)	Input	
P12(P13/T10)	Input	
P13~P16 (P20~P22, P23/Buz)	Input/ Output	These pins can be used as 4-bit I/O port 2. When used as an output the data is latched. When used as an input port the port outputs are three-state. $P2_3$ can also be used to output square waves for a buzzer, Reset causeds these pins to default to the port 2 input
P17~P20 (P30~P33)	Input/ Output	These pins are used for input/output port 3. Each bitin this port can be independently programmed to be either an input or output. This port has latched output
P21~P24 (P40~P43)	Input/ Output	These pins are used for input/output port 4 : this port has latched outputs. Port 4 outputs can directly drive an LED. Ports 4 and 5 can be paired to gether to function as one 8-bit port. A reset causes this port to be in the input mode.
P25~P28 (P40~P43)	Input/ Output	These pins are used for input/output port 4 : this port has latched outputs. Port 4 outputs can directly dirve and LED, Ports 4 and 5 can be paired together to function as one 8-bit port. A reset caused this port be in the input mode.
P29(PP0)	Output	This is an output signal from the timer/pulse generator, and can be either PWM(Pulse-Width Modulated) or a square wave. This pin can also be used as a 1-bit output port. Pin assumes a high impedance state upon reset.
P30~P31 (X1, X2)	Input	These pins are the main system clock inputs. The clock can be either a caramic or crystal resonator, and external logic signal may also be used as a clock source.
P32(V_{SS})		System ground
P33~P34 (XT_1~XT_2)	Input	These pins are the subsystem clock inputs. The clock can be either a ceramic or crystal resonator, an external logic signal may also be used as a clock source.
P35~P38 (P50~P53)	Input/ Output	These pin are used for input/output port 5 : this port has latched outputs and its outputs can directly drive an LED. Ports 4 and 5 can be paired together to function as one 8-bit port. A reset causeds this port to be in the input mode.
P39(RESET)	Input	This is the reset input, and it is active low
P40~P49 (T0~T9)	Output	These are high-voltage outputs used as FIP controller digit select timing signals. A reset signal sets these pins to the high-impedance state : if mask-option resistors are present the outputs go low.

Pin	I/O	Description
P50~P53 (T10~T13/ S15~S12/ PH3~PH0)	Output	Port H is a 4-bit output-only port, with P-channel opendrain outputs capable of directly driving LEDs. Alternatively, these pins can be used as high voltage digit/segment outputs. A reset signal causes this port to default to the high-impedance state : if mask-option resistors are present the output goes low.
P54~P55 (T14~T15/ S11~S10)	Output	These two pins provide additional digit select or segment lines. When not used for the display they can be used as static outputs.
P56(V_{LOAD})	Input	This pin is used to supply power to the output drivers for the segment lines and digit select, pins of the FIP Controller/driver
P57(V_{RPE})	Input	This is the power supply for the predrivers of the FIP Controller/ dirver
P1~P4 P58~P63 (S0~S9)	Output	These are high-voltage outputs used as FIP controller segment lines. Pull-down resistors can be selected as a mask-option. A reset signal sets these pins to the high impedance state :
P64(V_{DD})		The system positive power supply pin

ALIGNMENT PROCEDURES

1. Before Measurements and Adjustment
   The following general conditions apply to the electrical measurements adjustments unless especilly stated otherwise.
   - Dolby NR switch off.
   - REC volume control : Max.
   - Use 500mV(200 nWb/m) for 0dB as the standard level of the unit.
   - Test Tape
     - TCC-154·····Azimuth (12.4 kHz, -24 dB)
     - TCC-112·····Tape speed (3 kHz, -10 dB)
     - TCC-130·····Playback level(Dolby Ref. tape 400 Hz, 0 dB)
     - TCC-184N·····Freqency (12.5 k/10 k/6.3 k/1 k/250 Hz, -24 dB)
   - Alignment Tape
     - Normal·····TDK, AC-224
     - CrO2·····TDK, AC-513
     - Metal·····TDK, AC-712
2. Instrument required
   - Audio frequency oscillator
   - ACVM or Dual channel, mV-meter
   - Wow/flutter meter
   - Oscilloscope

Playback Section

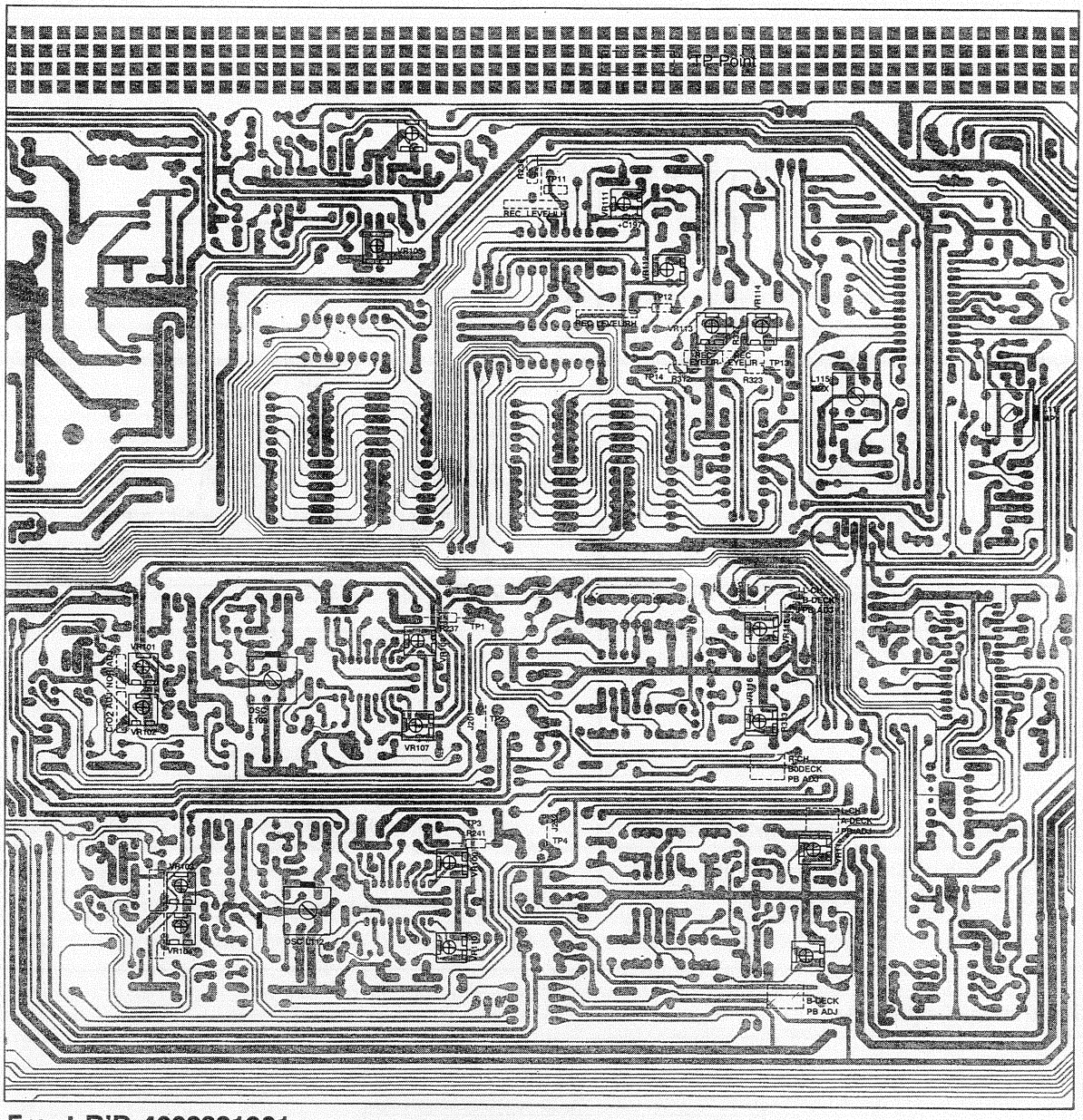
Adjustments	Test Tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Head Aximuth	TCC-154 12.5 kHz, -24 dB (A.BEX)	FWD Play (A&B Deck)		Line output	AC mV-meter Oscilloscope	Head adjusting screw (left side)	Max. *a Lissajous figure become a straight line with an angle 45 degrees
		REV Play (A&B Deck)				Head adjusting screw (left side)	
Playback speed on Nor-speed	TCC-112 3 kHz, -10 dB (A.BEX)	FWD & REV PLAY (A & B Deck)			Wow & Flutter meter	A-Deck VR701 & B-Deck VR703	*b 3000 Hz ± 15 Hz
Playback speed on Hi-speed						A-Deck VR702 & B-Deck VR704	6000 Hz ± 30 Hz *After GND (TP15)
Playback level	TCC-130 400 Hz, 0 dB (A.BEX)				AC mV-meter	A-Deck : VR117/VR118	500 mV
						B-Deck : VR115/VR116	
Playback frequency response	TCC-184N				AC mV-meter		See Fig.1 freq. response

Recording Section

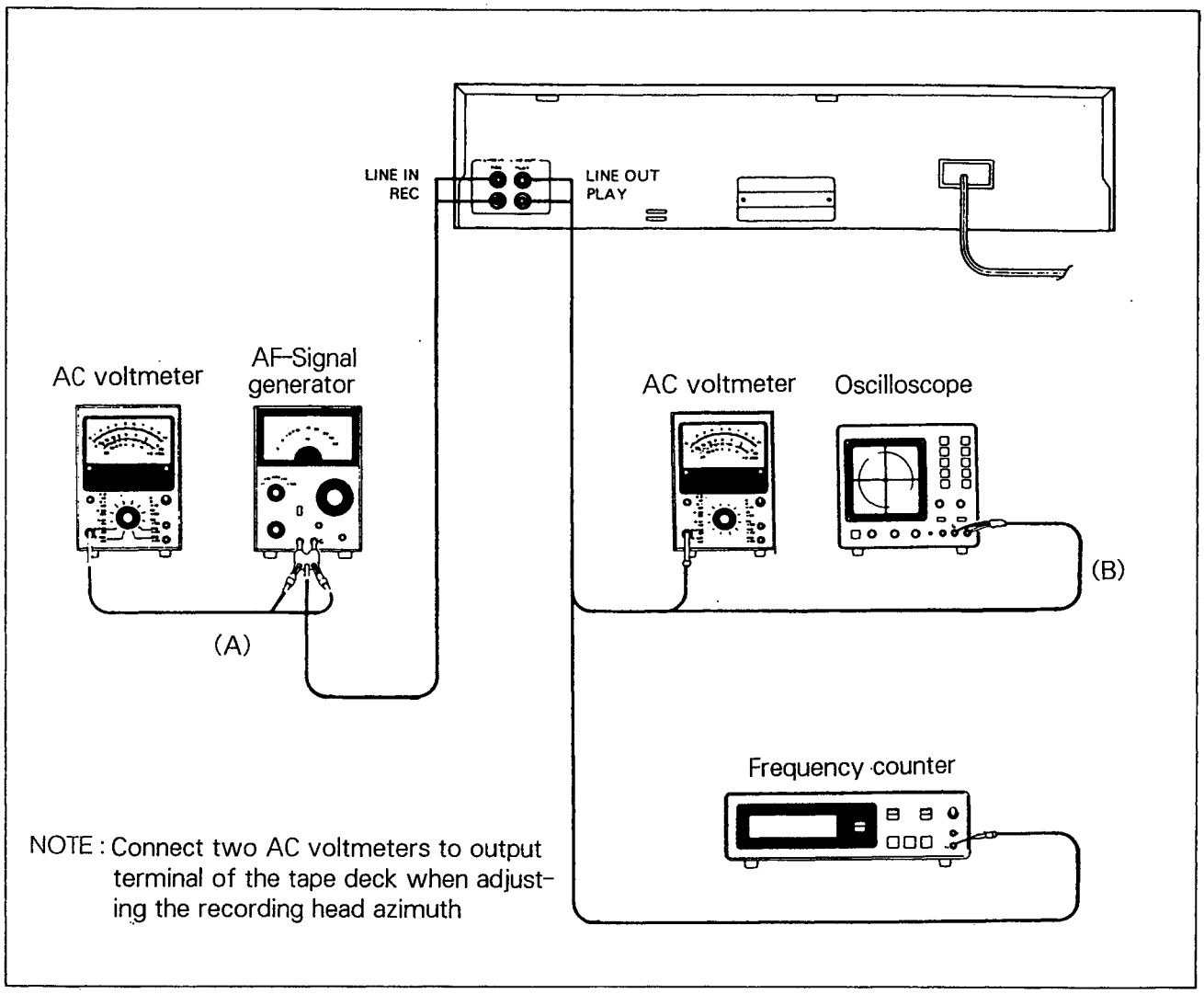
Adjustments	Test Tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Bias OSC frequency	AC-712 , TDK	Rec/Pause (A & B Deck)		White color lead wire of CNT102 & CNT202	Frequency Counter	A-Deck:L112 B-Deck:L109	105 kHz ± 400 Hz
Target Value Bias	Metal AC-712			TP4(L-CH) TP2(L-CH)	ACmV-meter	A-Deck:VR110(L) B-Deck:VR107(L)	About 42 V
				TP3(R-CH) TP1(R-CH)		A-Deck:VR109(R) B-Deck:VR108(R)	
	CrO2 AC-513					A-Deck:VR104 B-Deck:VR102	About 28 V
	Normal AC-224					A-Deck:VR103 B-Deck:VR101	About 18 V
Recording level	AC-712		400 Hz to Line in	TP14(L-CH) TP13(R-CH)		A-Deck : VR113/ VR114	About 12 mV*c
				TP11(L-CH) TP12(R-CH)		B-Deck : VR111/ VR112	
Bias	AC-712 AC-513 AC-224		400 Hz to Line in	Line out		See Target value bias	If it nacessary repeat bias adjustment *d
				4 kHz-6.3 kHz 10 kHz-12 kHz 14 kHz-16 kHz	Recoding number of frequen -cy with the same input voltage and play them back		
FL level meter			400 Hz, 100mV to Line in		FL Display	VR105(L) & VR106(R)	Dolby point on FL Display
19 kHz suppression	Arbitary Tape		19 kHz to Line in	Line in	AC mV-meter	IF Gnerator	100 mV on FL Display
				Line out	AC mV-meter Oscilloscope	L115/L116	Minimize the reaing on ACVM

3. Adjustment Point

Main B'D 4002321801

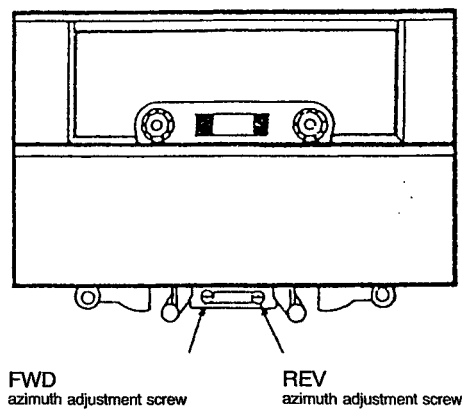


4. Test Equipment Connections



NOTE : Connect two AC voltmeters to output terminal of the tape deck when adjusting the recording head azimuth

5. Head Azimuth Adjustment



Note :

*a. Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleand. Referenc below the figure.

*b. The maximum permissibie speed variation ± 0.5%. Moreover the Wow and Flutter can be read. This value should not be exceed 0.2%.

*c. The voltage on Line out should be 500 mV ± 20 mV. If not it reduce the LF signal(bias disabled) as many as the reading was too low or too high by VR117 / VR118, VR115 / VR116.

*d. When the channel is adjusted, this may slightly affect the adjustment of the other channel. If the adjustment is correct, the frequency response curve will be similar to curve b in figure 2, distortion below 3%.

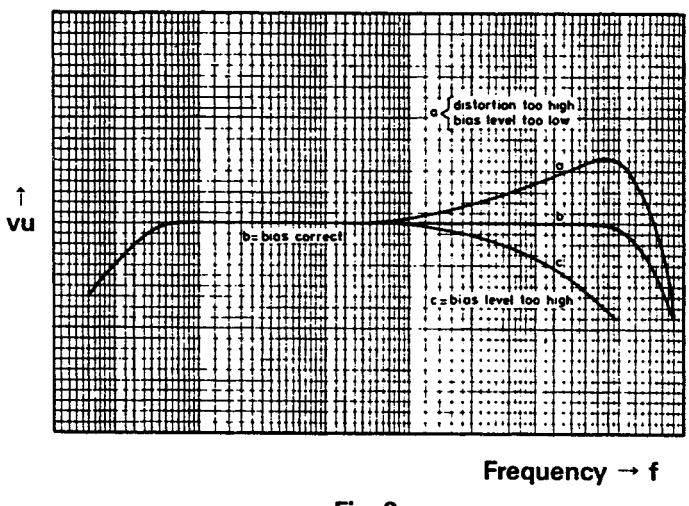


Fig. 2

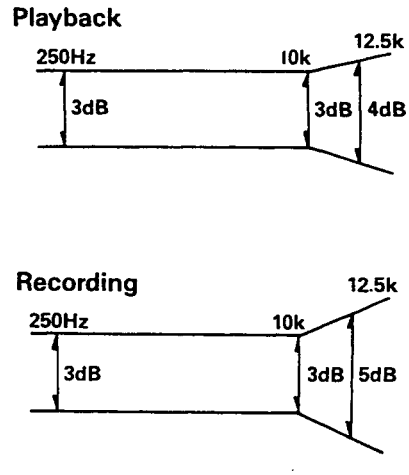
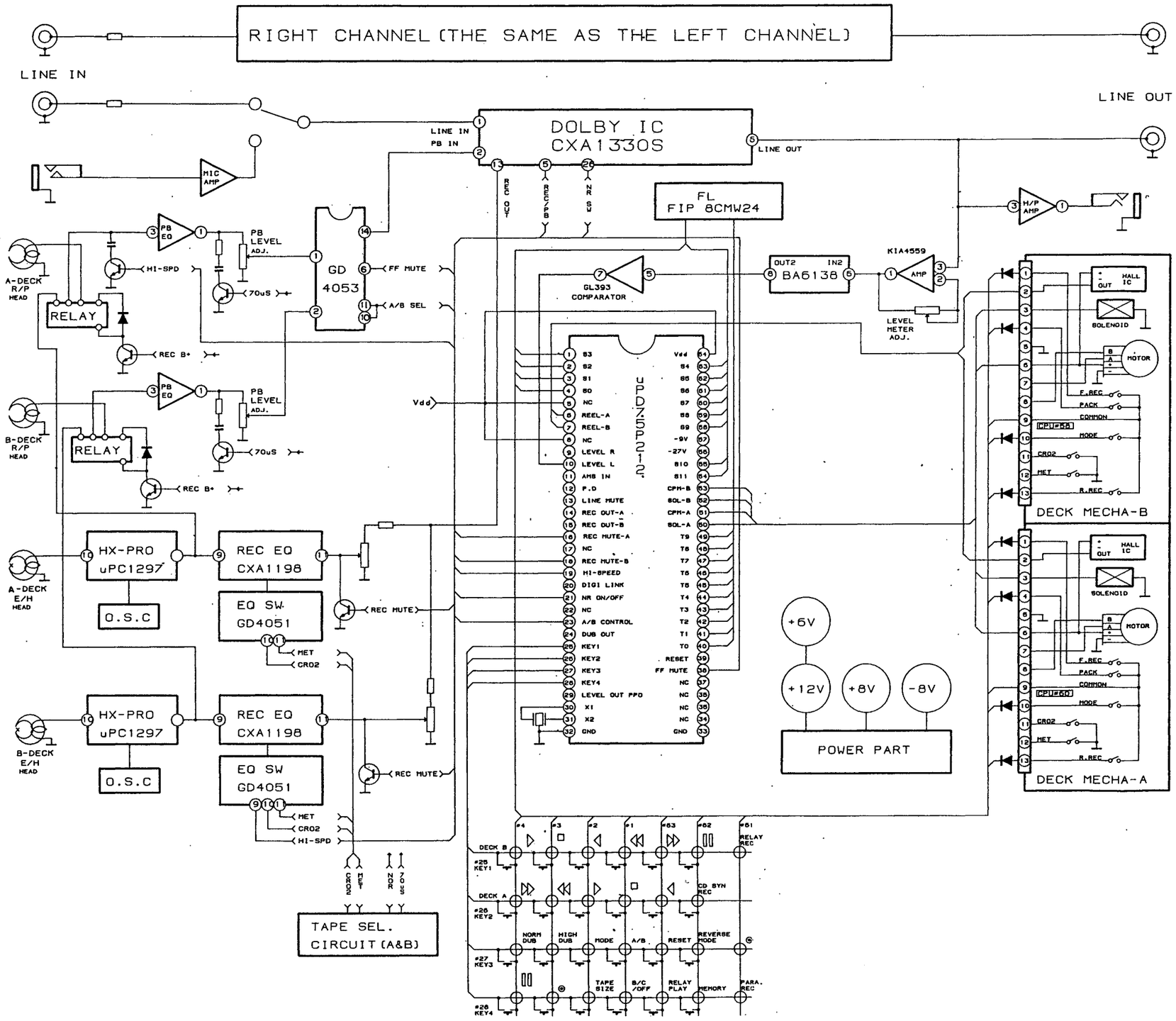


Fig. 1 Allowable Playback/Recording Frequency Response Zone

NOTES

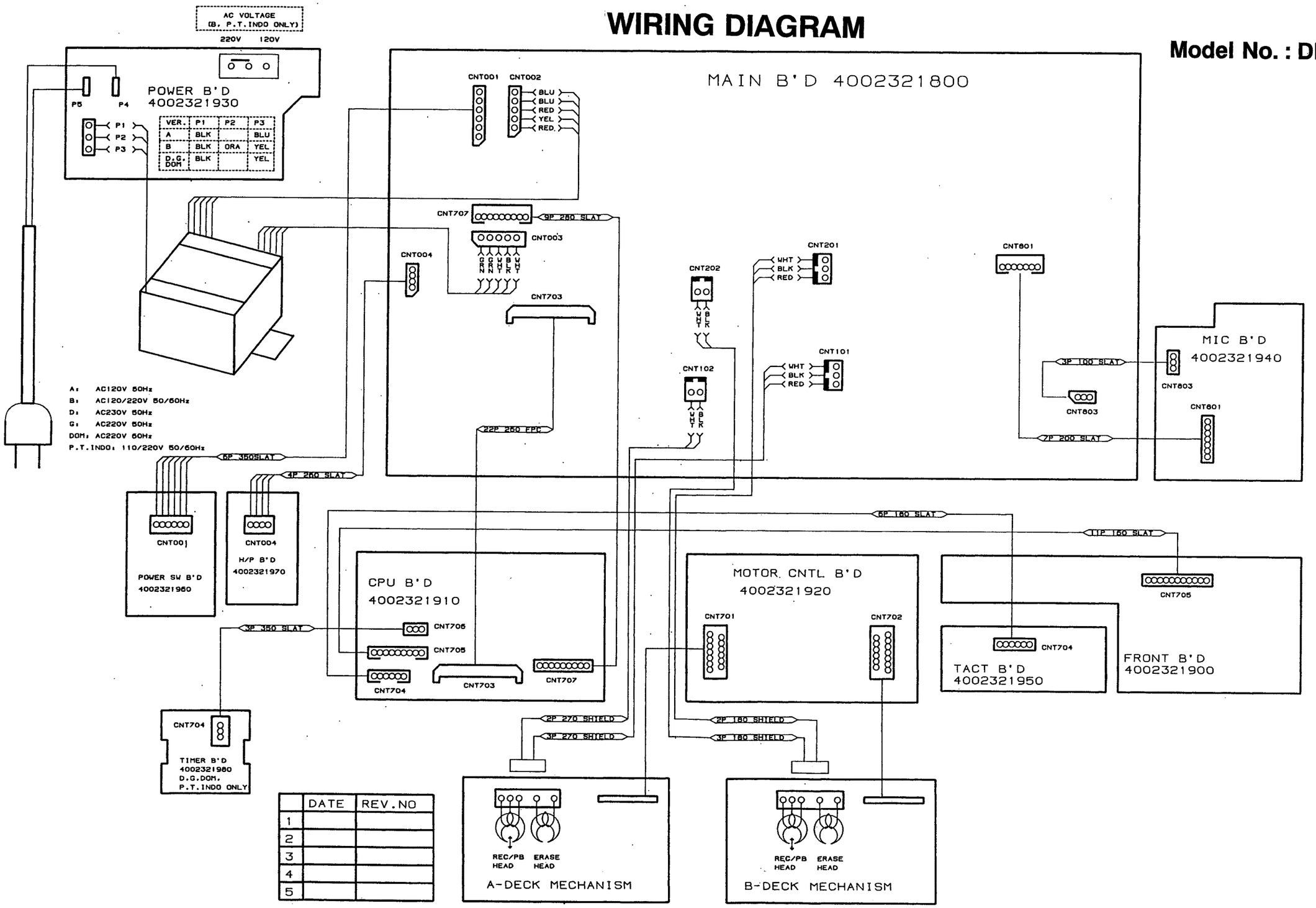
BLOCK DIAGRAM

Model No. : DD-6030C



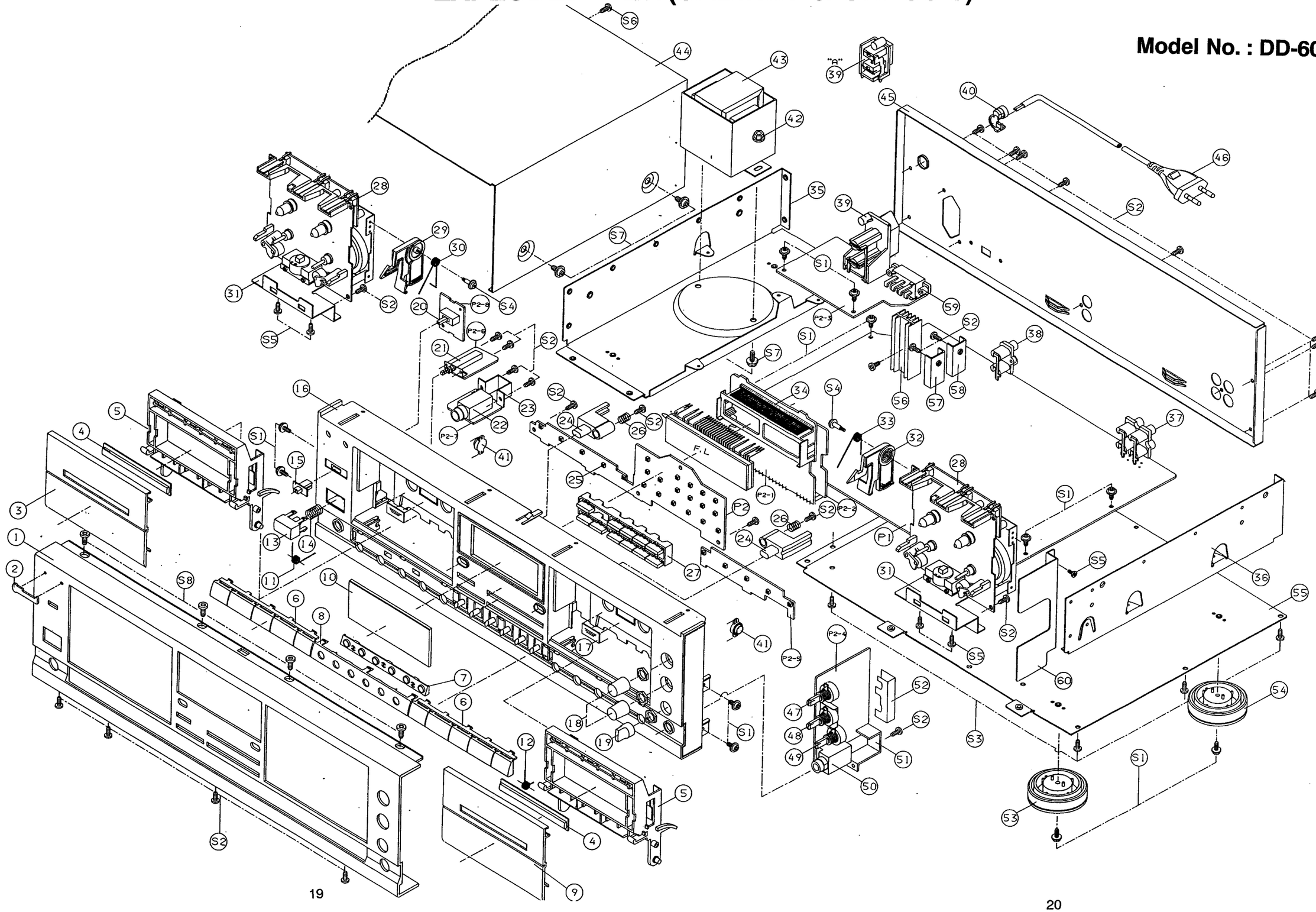
WIRING DIAGRAM

Model No. : DD-6030C



EXPLODED VIEW(CABINET & CHASSIS)

Model No. : DD-6030C



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CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Version
PACKAGE				
	9715000120	Film Sofet PE	1	
	049604124134	Box Carton	1	
ACCESSORIES				
	4328200510	Cord RCA 2P	2	
	4328204510	Cord RCA 1P	1	
CABINET				
1	048602018911	Panel Front, AL	1	Dom,G
	048602018921	Panel Front, AL	1	A
	048602018931	Panel Front, AL	1	D
2	048535034011	Badge (INKEL)	1	
	048535033911	Badge (SHERWOOD)	1	
3	048603001311	Door Deck "A", AL, Black	1	
4	8555045910	Window Door	2	
5	8562003810	LID Cassette, ABS, Black	2	
6	048543053111	Button Tact 5Key, ABS, Black	2	
7	048523012211	Bezel, ABS, Gold	1	
8	8543053210	Knob Dummy, ABS, Black	1	
9	048603001312	Door Deck "B", AL, Black	1	
10	048555045811	Windoe Display	1	
11	6555013420	Spring Door , L	1	
12	6555013410	Spring Door , R	1	
13	8545074330	Button Power, ABS, Black	1	
14	6555004380	Spring Button	1	
15	8545084520	Knob Slide, Black	1	Dom,D,G
16	8521008310	Body Front, ABS, Black	1	
17	9057079250	Label Silver	2	
18	048545076011	Knob Phone, ABS, Black	2	
19	048545117511	Knob VR Mic, Black	1	Dom,G
20	4618006710	Switch Slide	1	B,D,G,Dom
21	4628035210	Switch Power	1	
22	4438005010	Jack Phone	1	
23	6505092310	Bracket Headphone	1	
24	8545111510	Button Eject, ABS, Black	2	
25	4658003710	Switch Tact	22	
26	6555607310	Spring Eject	2	
27	8543053310	Button Tact, Black	1	
28	5708013510	Mecha REC/Play	2	
29	7143104120	Locker Eject, L	1	
30	6555802310	Spring Locker, L	1	
31	6503029610	Bracket Mecha	2	
32	7143104110	Locker Eject, R	1	
33	6555802320	Spring Locker, R	1	
34	8543048710	Holder Fl, ABS, Black	1	
35	6122621410	Frame Left	1	
36	6123205420	Frame Right	1	
37	4438103110	Jack RCA, 4P	1	
38	4438105010	Jack RCA, 2P	1	
39	4448103910	Outlet	1	Dom
	4448103210	Outlet	1	A
	4448103610	Outlet	1	D
40	6513000310	Stopper Cord, Black	1	Dom
	6518000710	Stopper Cord, Black	1	A
	6518000111	Stopper Cord, Black	1	D
41	6308001630	Oil Damper	2	
42	8209540011	Nut Plange M4Y	2	
43	⚠ 2828000377	Power Transformer 120V 60Hz	1	A
	⚠ 2828000567	Power Transformer 230V 50Hz	1	D
	⚠ 2828000577	Power Transformer 220V 60Hz	1	G.Dom
	⚠ 2828000897	Power Transformer 110/220V 50/60Hz	1	P.T.INDO
44	046122021531	Cover Top, Black	1	
45	048555045811	Chassis, Black	1	Dom
	048555045821	Chassis, Black	1	A
	048555045831	Chassis, Black	1	B
	048555045841	Chassis, Black	1	C
	048555045851	Chassis, Black	1	D
	048555045852	Chassis, Black	1	G
	048555045861	Chassis, Black	1	E
	048555045871	Chassis, Black	1	F
46	⚠ 4308007310	Cord AC Power	1	Dom
	⚠ 4308001410	Cord AC Power	1	A
	⚠ 4308000430	Cord AC Power	1	C,D
47	3208065310	VR REC Level, 100KAX2	1	
48	3208065410	VR REC Balance, 100KSWX1	1	
49	3208065210	VR Mic, 20KWX2	1	
50	4438005620	Jack Mic, Gold	1	
51	6505129110	Blacket Micphone	1	
52	6165145910	Shield Plate	1	
53	046033102611	Foot, AL, Gold	2	Dom
	046033102511	Foot Hotstamping,	2	A,Dom
	046033102511	Foot Hotstamping,	4	D
54	6033102510	Foot, Black	2	A
55	6122419110	Cover Bottom	1	
56	7505206120	REG TR H/Sink	1	
57	7505202410	REG TR H/Sink	1	
	7505202420	REG TR H/Sink	1	
58	7505202410	REG TR H/Sink	1	
59	4618006610	Voltage Selector	1	B,Dom
60	6163113810	Shield Fence	1	
S1	8159230083	Screw #2 WPTC 3X8B	14	
S2	8109230083	Screw #2 BTC 3X8B	28	
S3	8109230063	Screw #2 BTC 3X6B	7	
S4	8095004210	Screw Shoulder	2	
S5	8109420051	BTTS 2X5Y	4	
S6	8119230083	Screw #2 PTC 3X8B	2	
S7	8159440083	Screw SAM 4X8B	6	
S8	8129230083	Screw #2 FTC 3X8B	4	
P1	4002321800	PCB Main	1	
P2	4002321900	PCB Front	1	
P2-1	40023221910	PCB CPU	1	
P2-2	4002321920	PCB Motor CNTL	1	
P2-3	4002321930	PCB Power	1	
P2-4	4002321940	PCB Mic	1	
P2-5	4002321950	PCB Tact	1	
P2-6	4002321960	PCB Power SW	1	
P2-7	4002321970	PCB H/Pone	1	
P2-8	4002321980	PCB Timer	1	
	4235007310	Terminal GND	1	
	435305188631	Assembly Shield 5P 180mm, HEAD(B)	1	
	435305278631	Assembly Shield 5P 270mm, HEAD(A)	1	
	4118622269	FPC Card Cable 22P 260mm	1	

PRODUCT SAFETY NOTICE

Each precaution in this manual should be follower during servicing. Components identified with the IEC symbol ⚠ in the parts list and the safety can be of special significance. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description				Q'ty	Version
P1	**054051010001**	**PCB ASSEMBLY-MAIN**					
37	4438103110	Jack RCA, 4P				1	
38	4438105010	Jack RCA, 2P				1	
56	7505206120	REG TR H/Sink				1	
57	7505202410	REG TR H/Sink				1	
or	7505202420	REG TR H/Sink					
58	7505202410	REG TR H/Sink				1	
C102	3479247971	Electric SA	4.7 uF	50V	M	1	
C103	3479210971	Electric SA	1 uF	50V	M	1	
C104	3479247971	Electric SA	4.7 uF	50V	M	1	
C105	3679473120	Mylar	0.047 uF	100V	J	1	
C106	3479210971	Electric SA	1 uF	50V	M	1	
C107	3479322121	Electric SG	220 uF	10V	M	1	
C108	3479347041	Electric SG	47 uF	25V	M	1	
C109	3479247971	Electric SA	4.7 uF	50V	M	1	
C110	3479683120	Mylar	0.068 uF	100V	J	1	
C111	3479210871	Electric SA	0.1 uF	50V	M	1	
C112	3479347071	Electric SG	47 uF	50V	M	1	
C113	3479683120	Mylar	0.068 uF	100V	J	1	
C114	3479210971	Electric SA	1 uF	50V	M	1	
C115	3479222971	Electric SA	2.2 uF	50V	M	1	
C116	3479210871	Electric SA	0.1 uF	50V	M	1	
C117	3479210071	Electric SA	10 uF	50V	M	1	
C118/119	3479210971	Electric SA	1 uF	50V	M	2	
C120	3409333249	Electric SG	3300 uF	25V	M	1	
C122	3479347139	Electric SG	470 uF	16V	M	1	
C123/24	3479322249	Electric SG	2200 uF	25V	M	2	
C125/126	3479322121	Electric SG	220 uF	10V	M	2	
C127	5319103935	Ceramic Tubular	0.01 uF	50V	Z	1	
C130/131	3479222041	Electric SA	22 uF	25V	M	2	
C132	5319104935	Ceramic Tubular	0.1 uF	50V	Z	1	
C133	3479347041	Electric SG	47 uF	25V	M	1	
C135	5319104935	Ceramic Tubular	0.1 uF	50V	Z	1	
C136	3679103120	Mylar	0.01 uF	100V	J	1	
C137	3479347041	Electric SG	47 uF	25V	M	1	
C138	3679223120	Mylar	0.022 uF	100V	J	1	
C140	5319100935	Ceramic Tubular	10 pF	50V	Z	1	
C141	3679182120	Mylar	0.0018 uF	100V	J	1	
C142/143	3679103120	Mylar	0.01 uF	100V	J	2	
C144	3679123120	Mylar	0.012 uF	100V	J	1	
C145	3679223120	Mylar	0.022 uF	100V	J	1	
C146	5319100935	Ceramic Tubular	10 pF	50V	Z	1	
C147	3679182120	Mylar	0.0018 uF	100V	J	1	
C148	3679103120	Mylar	0.01 uF	100V	J	1	
C149	3679123120	Mylar	0.012 uF	100V	J	1	
C150	3479247971	Electric SA	4.7 uF	50V	M	1	
C151	5319331935	Ceramic Tubular	330 pF	50V	Z	1	
C152/153	3679473120	Mylar	0.047 uF	100V	J	2	
C154	3479247971	Electric SA	4.7 uF	50V	M	1	
C155/156	5319331935	Ceramic Tubular	330 pF	50V	Z	2	
C157	3479247971	Electric SA	4.7 uF	50V	M	1	
C158/159	3679473120	Mylar	0.047 uF	100V	J	2	
C160	5319821935	Ceramic Tubular	820 pF	50V	Z	1	
C161	5319331935	Ceramic Tubular	330 pF	50V	Z	1	
C162/164	5319821935	Ceramic Tubular	820 pF	50V	Z	3	
C165	3479247971	Electric SA	4.7 uF	50V	M	1	
C166/167	3679393120	Mylar	0.039 uF	100V	J	2	
C168	5319821935	Ceramic Tubular	820 pF	50V	Z	1	
C169/170	3679223120	Mylar	0.022 uF	100V	J	2	
C171	5319821935	Ceramic Tubular	820 pF	50V	Z	1	
C172/173	5319103935	Ceramic Tubular	0.01 uF	50V	Z	2	
C174/175	3679393120	Mylar	0.039 uF	100V	J	2	
C176/177	3679223120	Mylar	0.022 uF	100V	J	2	
C178	5319331935	Ceramic Tubular	330 pF	50V	Z	1	
C179/180	5319103935	Ceramic Tubular	0.01 uF	50V	Z	2	
C181	3479247971	Electric SA	4.7 uF	50V	M	1	
C182/183	5319331935	Ceramic Tubular	330 pF	50V	Z	2	
C184	3479247971	Electric SA	4.7 uF	50V	M	1	
C185/196	3479347041	Electric SA	47 uF	25V	M	2	
C187/189	3479310121	Electric SG	100 uF	10V	M	3	
C190	3479210971	Electric SA	1 uF	50V	M	1	
C191	3479210071	Electric SA	10 uF	50V	M	1	
C192	3479310121	Electric SG	100 uF	10V	M	1	
C193/194	3479210971	Electric SA	1 uF	50V	M	2	
C195	3479210071	Electric SA	10 uF	50V	M	1	
C196	3679223120	Mylar	0.022 uF	100V	J	1	
C197/198	3479222041	Electric SA	22 uF	25V	M	2	
C199	3679223120	Mylar	0.022 uF	100V	J	1	
C200	3479210971	Electric SA	1 uF	50V	M	1	
C201	5319101935	Ceramic Tubular	100 pF	50V	Z	1	
C202	3679223120	Mylar	0.022 uF	100V	J	1	
C203	5319101935	Ceramic Tubular	100 pF	50V	Z	1	
C204	3479310121	Electric SG	100 uF	10V	M	1	
C205	3679223120	Mylar	0.022 uF	100V	J	1	
C206	5319101935	Ceramic Tubular	100 pF	50V	Z	1	
C207/C208	5319821935	Ceramic Tubular	820 pF	50V	Z	2	
C209	3479210971	Electric SA	1 uF	50V	M	1	
C210	5319101935	Ceramic Tubular	100 pF	50V	Z	1	
C211	3479310121	Electric SG	100 uF	10V	M	1	
C214	3479210071	Electric SA	10 uF	50V	M	1	
C215/216	5319471935	Ceramic Tubular	470 pF	50V	Z	2	
C217	3479310121	Electric SG	100 uF	10V	M	1	
C218	5319331935	Ceramic Tubular	330 pF	50V	Z	1	
C220	3479222041	Electric SA	22 uF	25V	M	1	
C221/222	3679183120	Mylar	0.018 uF	100V	J	2	
C223	3479222044	Electric SA	22 uF	25M	M	1	
C224/225	3679183120	Mylar	0.018 uF	100V	J	2	
C226	3479210071	Electric SA	10 uF	50V	M	1	
C227	3479310121	Electric SG	100 uF	10V	M	1	
C228/229	3479210071	Electric SA	10 uF	50V	M	2	
C230	3679102120	Mylar	0.001 uF	100V	J	1	
C231/232	3679222120	Mylar	0.0022 uF	100V	J	2	
C233	3679472120	Mylar	0.0047 uF	100V	J	1	
C234	3679102120	Mylar	0.001 uF	100V	J	1	
C235	3479256871	Electric SA	0.56 uF	50V	M	1	
C236	3479233871	Electric SA	0.33 uF	50V	M	1	
C237	5319221935	Ceramic Tubular	220 pF	50V	Z	1	
C239/240	3479247971	Electric SA	4.7 uF	50V	M	2	
C241	3479310121	Electric SG	100 uF	10V	M	1	
C243	5319221935	Ceramic Tubular	220 pF	50V	Z	1	
C245	3479247971	Electric SA	4.7 uF	50V	M	1	
C246	5319221935	Ceramic Tubular	220 pF	50V	Z	1	
C247	3679472120	Mylar	0.0047 uF	100V	J	1	
C249	3479247971	Electric SA	4.7 uF	50V	M	1	
C250	3679222120	Mylar	0.0022 uF	100V	J	1	
C252	3679102120	Mylar	0.001 uF	100V	J	1	
C253	5319221935	Ceramic Tubular	220 pF	50V	Z	1	
C256	3479210071	Electric SA	10 uF	50V	M	1	
C257	3679222120	Mylar	0.0022 uF	100V	J	1	
C258	3679102120	Mylar	0.001 uF	100V	J	1	
C259	3479256871	Electric SA	0.56 uF	50V	M	1	
C260	3479310121	Electric SG	100 uF	10V	M	1	
C261	3479233871	Electric SA	0.33 uF	50V	M	1	
C262	3479210071	Electric SA	10 uF	50V	M	1	
C263	3479247971	Electric SA	4.7 uF	50V	M	1	
C264/267	3479310121	Electric SG	100 uF	10V	M	4	
C268/270	3479210971	Electric SA	1 uF	50V	M	3	
C271/272	5319271935	Ceramic Tubular	270 pF	50V	Z	2	

Ref. No.	Part No.	Description	Q'ty	Version
CNT001	4428505810	Wafer 6P	1	
CNT002	4428506910	Wafer 5P	1	
CNT003	4428506910	Wafer 5P	1	
CNT004	4428505610	Wafer 4P	1	
CNT005	435203220232	Lead Ass'y 3P 220mm	1	
CNT101	4428517610	Wafer 3P	1	
CNT102	4428517510	Wafer 2P	1	
CNT201	4428517610	Wafer 3P	1	
CNT202	4428517510	Wafer 2P	1	
CNT703	4428526340	Wafer 22P, FPC Elco	1	
CNT707	4428516810	Wafer 9P	1	
CNT801	4428516610	Wafer 7P	1	
CNT803	4428505710	Wafer 3P	1	
L100/111	2648610284	Inductor 1mH	4	
L105/108	2658501150	Rec Trap, 389AC-K5049	4	
L109	2638601350	Bias O.S.C 105KHz	1	
L101/104	2638601240	HX-PRO Coil	2	
L112	2638601350	Bias O.S.C 105KHz	1	
L113/114	2638601240	HX-PRO Coil	2	
L115/116	2658301120	Filter MPX	2	
D101/102	2058322101	1N 4148M, Switching	2	
D103	2258100135	1N4002, Rectifier	1	
D104	2058322101	1N 4148M, Switching	1	
D105	2258599103	Zener DZ 5.1B	1	
D106/107	2058322101	1N 4148M, Switching	2	
D108	2258599105	Zener DZ 6.2B	1	
D109/110	2058322101	1N 4148M, Switching	2	
D111	2258599123	Zener DZ 8.2B	1	
D112	2258599115	Zener DZ 27B	1	
D113/116	2058322101	1N 4148M, Switching	4	
⚠ D117/120	2258100135	1N4002, Rectifier	4	
D121/122	2058322101	1N 4148M, Switching	2	
⚠ D124/127	2258100135	1N4002, Rectifier	4	
D128/130	2058322101	1N 4148M, Switching	3	
D131/132	2258100135	1N4002, Rectifier	2	
D133/138	2058322101	1N 4148M, Switching	6	
IC101	2168027102	BA 6138, FL Meter	1	
IC102	2168801100	GL 393, Comparator	1	
IC103	2168606110	KIA 7806, Regulator	1	
IC104	2168606104	KIA 7812, Regulator	1	
IC105	2168602101	MC 7808, Regulrator	1	
IC106	2168602102	MC 7908, Regulrator	1	
IC107	2168206104	KIA 4559P, H/P Amp	1	
IC108	2138009134	MC 14051, Switching	1	
IC109/110	2168013111	UPC 1297CA, HX-PRO	2	
IC111	2168206104	KIA 4559P, FL Level ADJ.	1	
IC112	2138009134	MC 14051, Switching	1	
IC113-116	2168022124	CXA 1198AP, Rec Amp	2	
IC114/115	2168020106	NJM 2068DD, PB Amp	2	
IC117	2168022123	CXA 1330S, Dolby	1	
IC118	2138011117	GD 4053, Switching	1	
R101/102	3069104970	Carbon Film 100K ohm 1/5W J	2	
R103	3069333970	Carbon Film 33K ohm 1/5W J	1	
R104	3069104970	Carbon Film 100K ohm 1/5W J	1	
R105	3069472970	Carbon Film 4.7K ohm 1/5W J	1	
R106	3069101970	Carbon Film 100 ohm 1/5W J	1	
R107/108	3069220970	Carbon Film 22 ohm 1/5W J	2	
R109	3069333970	Carbon Film 33K ohm 1/5W J	1	
R110	3069104970	Carbon Film 100K ohm 1/5W J	1	
R111	3069472970	Carbon Film 4.7K ohm 1/5W J	1	
R112	3069104970	Carbon Film 100K ohm 1/5W J	1	
R113	3069242970	Carbon Film 2.4K ohm 1/5W J	1	
R114	3069102970	Carbon Film 1K ohm 1/5W J	1	
R115	3069562970	Carbon Film 5.6K ohm 1/5W J	1	

Ref. No.	Part No.	Description	Q'ty	Version
R116	3069102970	Carbon Film 1K ohm 1/5W J	1	
R117	3069104970	Carbon Film 100K ohm 1/5W J	1	
R118	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R119	3069472970	Carbon Film 4.7K ohm 1/5W J	1	
R120	3069433970	Carbon Film 43K ohm 1/5W J	1	
R121/122	3069102970	Carbon Film 1K ohm 1/5W J	2	
R123	3069202970	Carbon Film 2K ohm 1/5W J	1	
R124	3069104970	Carbon Film 100K ohm 1/5W J	1	
R125	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R126	3069202970	Carbon Film 2K ohm 1/5W J	1	
R127	3069473970	Carbon Film 47K ohm 1/5W J	1	
R128	3069102970	Carbon Film 1K ohm 1/5W J	1	
R129	3069302970	Carbon Film 3K ohm 1/5W J	1	
R130	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R131	3069473970	Carbon Film 47K ohm 1/5W J	1	
R132	3069102970	Carbon Film 1K ohm 1/5W J	1	
R133	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R134	3069223970	Carbon Film 22K ohm 1/5W J	1	
R135/136	3069104970	Carbon Film 100K ohm 1/5W J	2	
R137	3069103970	Carbon Film 10K ohm 1/5W J	1	
R138	3069473970	Carbon Film 47K ohm 1/5W J	1	
R139	3069103970	Carbon Film 10K ohm 1/5W J	1	
R143	3069473970	Carbon Film 47K ohm 1/5W J	1	
R144	3069302970	Carbon Film 3K ohm 1/5W J	1	
R146	3069222970	Carbon Film 2.2K ohm 1/5W J	1	
R147	3069103970	Carbon Film 10K ohm 1/5W J	1	
R148	3069223970	Carbon Film 22K ohm 1/5W J	1	
R149	3069102970	Carbon Film 1K ohm 1/5W J	1	
R150	3069222970	Carbon Film 2.2K ohm 1/5W J	1	
R151	3069224970	Carbon Film 220K ohm 1/5W J	1	
R152	3069103970	Carbon Film 10K ohm 1/5W J	1	
R153	3069362970	Carbon Film 3.6K ohm 1/5W J	1	
R155	3069102970	Carbon Film 1K ohm 1/5W J	1	
R156	3069223970	Carbon Film 22K ohm 1/5W J	1	
R157	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R158	3069473970	Carbon Film 47K ohm 1/5W J	1	
R159	3069103970	Carbon Film 10K ohm 1/5W J	1	
R160	3069102970	Carbon Film 1K ohm 1/5W J	1	
R161	3069362970	Carbon Film 3.6K ohm 1/5W J	1	
R162	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R163	3069302970	Carbon Film 3K ohm 1/5W J	1	
R164	3069223970	Carbon Film 22K ohm 1/5W J	1	
R165	3069822970	Carbon Film 8.2K ohm 1/5W J	1	
R166	3069103970	Carbon Film 10K ohm 1/5W J	1	
R167	3069473970	Carbon Film 47K ohm 1/5W J	1	
R168	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R169	3069103970	Carbon Film 10K ohm 1/5W J	1	
R170	3069121970	Carbon Film 120 ohm 1/5W J	1	
R171	3069100970	Carbon Film 10 ohm 1/5W J	1	
R172	3069333970	Carbon Film 33K ohm 1/5W J	1	
R173	3069121970	Carbon Film 120 ohm 1/5W J	1	
R174	3069103970	Carbon Film 10K ohm 1/5W J	1	
R175	3069100970	Carbon Film 10 ohm 1/5W J	1	
R176	3069103970	Carbon Film 10K ohm 1/5W J	1	
R177	3069302970	Carbon Film 3K ohm 1/5W J	1	
R178	3069154970	Carbon Film 150K ohm 1/5W J	1	
R179	3069203970	Carbon Film 20K ohm 1/5W J	1	
R180	3069100970	Carbon Film 10 ohm 1/5W J	1	
R181/182	3069333970	Carbon Film 33K ohm 1/5W J	2	
R183	3069203970	Carbon Film 20K ohm 1/5W J	1	
R184	3069123970	Carbon Film 12K ohm 1/5W J	1	
R185	3069103970	Carbon Film 10K ohm 1/5W J	1	
R186	3069223970	Carbon Film 22K ohm 1/5W J	1	
R187	3069823970	Carbon Film 82K ohm 1/5W J	1	

Ref. No.	Part No.	Description	Q'ty	Version
R188	3069823970	Carbon Film 82K ohm 1/5W J	1	
R189	3069104970	Carbon Film 100K ohm 1/5W J	1	
R190	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R191	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R192	3069223970	Carbon Film 22K ohm 1/5W J	1	
R193	3069124970	Carbon Film 120K ohm 1/5W J	1	
R194	3069683970	Carbon Film 68K ohm 1/5W J	1	
R195	3069913970	Carbon Film 91K ohm 1/5W J	1	
R196	3069100970	Carbon Film 10 ohm 1/5W J	1	
R197	3069103970	Carbon Film 10K ohm 1/5W J	1	
R198	3069333970	Carbon Film 33K ohm 1/5W J	1	
R199	3069154970	Carbon Film 150K ohm 1/5W J	1	
R200/201	3069100970	Carbon Film 10 ohm 1/5W J	2	
R202	3069333970	Carbon Film 33K ohm 1/5W J	1	
R203	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R204	3069243970	Carbon Film 24K ohm 1/5W J	1	
R205	3069682970	Carbon Film 6.8K ohm 1/5W J	1	
R206	3069513970	Carbon Film 51K ohm 1/5W J	1	
R207	3069104970	Carbon Film 100K ohm 1/5W J	1	
R208	3069683970	Carbon Film 68K ohm 1/5W J	1	
R209	3069243970	Carbon Film 24K ohm 1/5W J	1	
R210	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R211	3069472970	Carbon Film 4.7K ohm 1/5W J	1	
R212	3069223970	Carbon Film 22K ohm 1/5W J	1	
R213	3069104970	Carbon Film 100K ohm 1/5W J	1	
R214	3069433970	Carbon Film 43K ohm 1/5W J	1	
R215	3069753970	Carbon Film 75K ohm 1/5W J	1	
R216	3069333970	Carbon Film 33K ohm 1/5W J	1	
R217/218	3069100970	Carbon Film 10 ohm 1/5W J	2	
R219	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R220	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R221	3069512970	Carbon Film 5.1K ohm 1/5W J	1	
R222	3069223970	Carbon Film 22K ohm 1/5W J	1	
R223	3069184970	Carbon Film 180K ohm 1/5W J	1	
R224	3069473970	Carbon Film 47K ohm 1/5W J	1	
R225	3069473970	Carbon Film 47K ohm 1/5W J	1	
R226	3069912970	Carbon Film 9.1K ohm 1/5W J	1	
R227	3069103970	Carbon Film 10K ohm 1/5W J	1	
R228	3069223970	Carbon Film 22K ohm 1/5W J	1	
R229	3069104970	Carbon Film 100K ohm 1/5W J	1	
R230	3069753970	Carbon Film 75K ohm 1/5W J	1	
R231	3069154970	Carbon Film 150K ohm 1/5W J	1	
R232/233	3069223970	Carbon Film 22K ohm 1/5W J	2	
R234/R235	3069182970	Carbon Film 1.8K ohm 1/5W J	2	
R236/237	3069184970	Carbon Film 180K ohm 1/5W J	2	
R238	3069393970	Carbon Film 39K ohm 1/5W J	1	
R239/240	3069223970	Carbon Film 22K ohm 1/5W J	2	
R241/242	3069184970	Carbon Film 180K ohm 1/5W J	2	
R243	3069150970	Carbon Film 150K ohm 1/5W J	1	
R244	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R245	3069393970	Carbon Film 39K ohm 1/5W J	1	
R246	3069154970	Carbon Film 150K ohm 1/5W J	1	
R247	3069223970	Carbon Film 22K ohm 1/5W J	1	
R248	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R249	3069123970	Carbon Film 12K ohm 1/5W J	1	
R250	3069103970	Carbon Film 10K ohm 1/5W J	1	
R251	3069223970	Carbon Film 22K ohm 1/5W J	1	
R252	3069823970	Carbon Film 82K ohm 1/5W J	1	
R253	3069823970	Carbon Film 82K ohm 1/5W J	1	
R254	3069104970	Carbon Film 100K ohm 1/5W J	1	
R261	3069223970	Carbon Film 22K ohm 1/5W J	1	
R262	3069243970	Carbon Film 24K ohm 1/5W J	1	
R263	3069202970	Carbon Film 2K ohm 1/5W J	1	
R264	3069101970	Carbon Film 100 ohm 1/5W J	1	

Ref. No.	Part No.	Description	Q'ty	Version
R265	3069243970	Carbon Film 24K ohm 1/5W J	1	
R266	3069682970	Carbon Film 6.8K ohm 1/5W J	1	
R267	3069513970	Carbon Film 51K ohm 1/5W J	1	
R268	3069104970	Carbon Film 100K ohm 1/5W J	1	
R269	3069683970	Carbon Film 68K ohm 1/5W J	1	
R270	3069243970	Carbon Film 24K ohm 1/5W J	1	
R277	3069202970	Carbon Film 2K ohm 1/5W J	1	
R278	3069184970	Carbon Film 180K ohm 1/5W J	1	
R279	3069101970	Carbon Film 100 ohm 1/5W J	1	
R280	3069184970	Carbon Film 180K ohm 1/5W J	1	
R281	3069752970	Carbon Film 7.5K ohm 1/5W J	1	
R282	3069103970	Carbon Film 10K ohm 1/5W J	1	
R283	3069184970	Carbon Film 180K ohm 1/5W J	1	
R284	3069752970	Carbon Film 7.5K ohm 1/5W J	1	
R285	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R286	3069512970	Carbon Film 5.1K ohm 1/5W J	1	
R287	3069223970	Carbon Film 22K ohm 1/5W J	1	
R288	3069184970	Carbon Film 180K ohm 1/5W J	1	
R289	3069473970	Carbon Film 47K ohm 1/5W J	1	
R290	3069473970	Carbon Film 47K ohm 1/5W J	1	
R296	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R297	3069184970	Carbon Film 180K ohm 1/5W J	1	
R298	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R299	3069101970	Carbon Film 100 ohm 1/5W J	1	
R300	3069103970	Carbon Film 10K ohm 1/5W J	1	
R301	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R302	3069752970	Carbon Film 7.5K ohm 1/5W J	1	
R303/304	3069330970	Carbon Film 33 ohm 1/5W J	2	
R305	3069122970	Carbon Film 1.2K ohm 1/5W J	1	
R306	3069752970	Carbon Film 7.5K ohm 1/5W J	1	
R308	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R308	3069101970	Carbon Film 100 ohm 1/5W J	1	
R309/310	3069104970	Carbon Film 100K ohm 1/5W J	2	
R311	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R312	3069103970	Carbon Film 10K ohm 1/5W J	1	
R313	3069122970	Carbon Film 1.2K ohm 1/5W J	1	
R314/315	3069330970	Carbon Film 33 ohm 1/5W J	2	
R316	3069122970	Carbon Film 1.2K ohm 1/5W J	1	
R317/318	3069332970	Carbon Film 3.3K ohm 1/5W J	2	
R319/320	3069104970	Carbon Film 100K ohm 1/5W J	2	
R321	3069243970	Carbon Film 24K ohm 1/5W J	1	
R322	3069122970	Carbon Film 1.2K ohm 1/5W J	1	
R323	3069103970	Carbon Film 10K ohm 1/5W J	1	
R324	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R325/326	3069302970	Carbon Film 3K ohm 1/5W J	2	
R327	3069122970	Carbon Film 1.2K ohm 1/5W J	1	
R328/329	3069302970	Carbon Film 3K ohm 1/5W J	2	
R330	3069332970	Carbon Film 3.3K ohm 1/5W J	1	
R331	3069272970	Carbon Film 2.7K ohm 1/5W J	1	
R332/333	3069332970	Carbon Film 3.3K ohm 1/5W J	2	
R334	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R335/336	3069333970	Carbon Film 33K ohm 1/5W J	2	
R337	3069102970	Carbon Film 1K ohm 1/5W J	1	
R338	3069561970	Carbon Film 560 ohm 1/5W J	1	
R339	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R340	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R341/342	3069332970	Carbon Film 3.3K ohm 1/5W J	2	
R343	3069243970	Carbon Film 24K ohm 1/5W J	1	
R344	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R345	3069333970	Carbon Film 33K ohm 1/5W J	1	
R348	3069333970	Carbon Film 33K ohm 1/5W J	1	
R349	3069101970	Carbon Film 100 ohm 1/5W J	1	
R350	3069222970	Carbon Film 2.2K ohm 1/5W J	1	
R356	3069562970	Carbon Film 5.6K ohm 1/5W J	1	

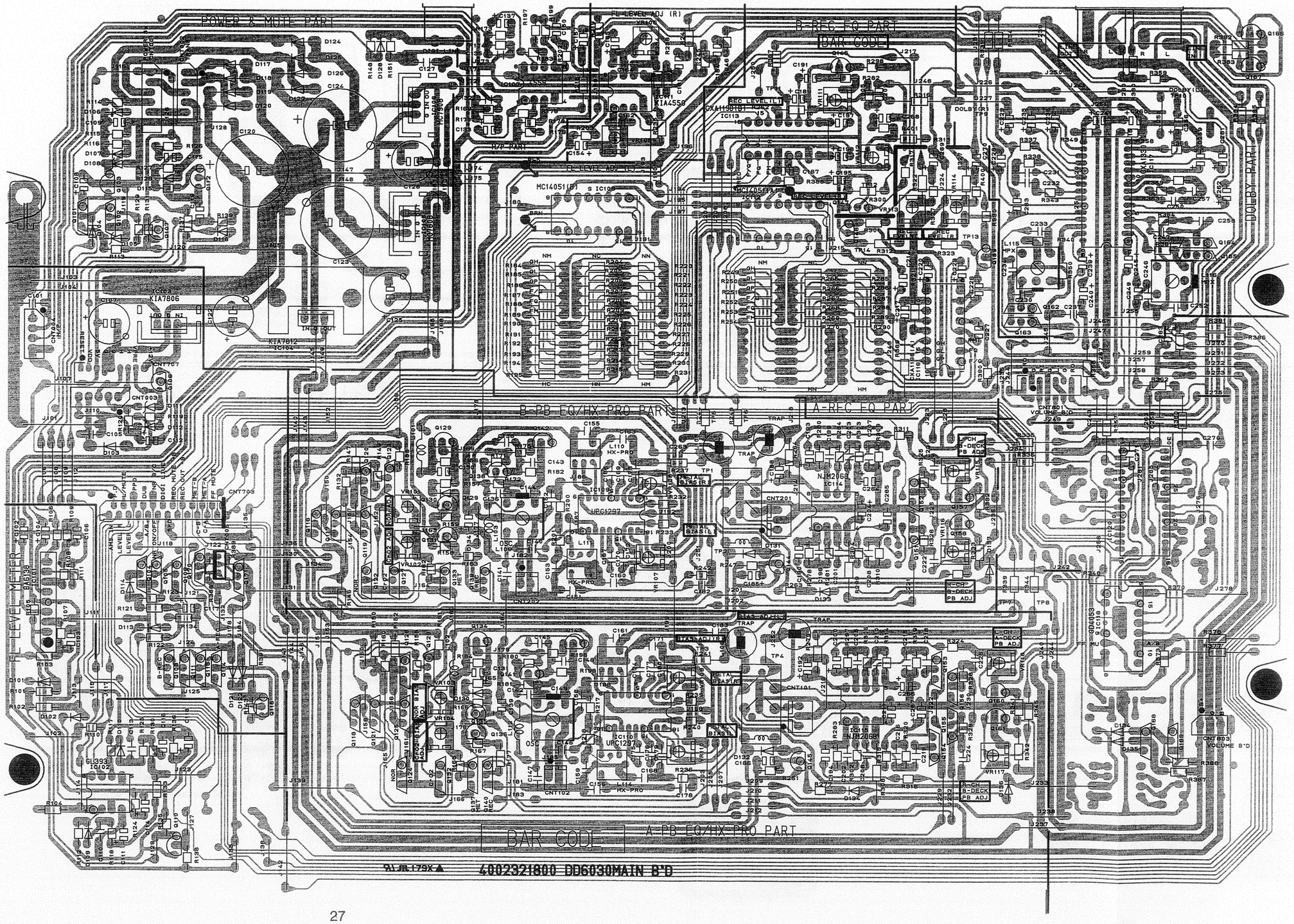
Ref. No.	Part No.	Description	Q'ty	Version
R357	3069103970	Carbon Film 10K ohm 1/5W J	1	
R358	3069101970	Carbon Film 100 ohm 1/5W J	1	
R359	3069272970	Carbon Film 2.7K ohm 1/5W J	1	
R360	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R361	3069222970	Carbon Film 2.2K ohm 1/5W J	1	
R362	3069562970	Carbon Film 5.6K ohm 1/5W J	1	
R363	3069243970	Carbon Film 24K ohm 1/5W J	1	
R364	3069622970	Carbon Film 6.2K ohm 1/5W J	1	
R366	3069273970	Carbon Film 27K ohm 1/5W J	1	
R367/368	3069103970	Carbon Film 10K ohm 1/5W J	2	
R369	3069561970	Carbon Film 560 ohm 1/5W J	1	
R370	3069101970	Carbon Film 100 ohm 1/5W J	1	
R371/372	3069103970	Carbon Film 10K ohm 1/5W J	2	
R373	3069473970	Carbon Film 47K ohm 1/5W J	1	
R376	3069272970	Carbon Film 2.7K ohm 1/5W J	1	
R377	3069103970	Carbon Film 10K ohm 1/5W J	1	
R378	3069473970	Carbon Film 47K ohm 1/5W J	1	
R380	3069103970	Carbon Film 10K ohm 1/5W J	1	
R381	3069102970	Carbon Film 1K ohm 1/5W J	1	
R382/383	3069332970	Carbon Film 3.3K ohm 1/5W J	2	
R384/385	3069333970	Carbon Film 33K ohm 1/5W J	2	
R386	3069102970	Carbon Film 1K ohm 1/5W J	1	
R387-R390	3069330970	Carbon Film 33 ohm 1/5W J	4	
R400-R402	3069122970	Carbon Film 1.2K ohm 1/5W J	3	
RLY101	5528001720	Relay, OVR-SH-212L	1	
RLY201	5528001720	Relay, OVR-SH-212L	1	
Q101	2208222105	DTA 114YS, Silicon, PNP	1	
Q102	2208622108	DTC 114TS, Silicon, NPN	1	
Q103	2208206105	KTA 1266Y/A1015Y, Silicon,PNP	1	
Q104/105	2208622108	DTC 114TS, Silicon, NPN	2	
Q106/107	2208206113	KMPS A56, Silicon, PNP	2	
Q108/109	2208222105	DTA 114YS, Silicon, PNP	2	
Q110	2208606112	KTD 1302, Silicon, NPN	1	
Q111	2208622108	DTC 114TS, Silicon, NPN	1	
Q112	2208606112	KTD 1302, Silicon, NPN	1	
Q113	2208622108	DTC 114TS, Silicon, NPN	1	
Q114	2208222105	DTA 114YS, Silicon, PNP	1	
Q115	2208206105	KTA 1266Y(A1015Y) Silicon, PNP	1	
Q116-119	2208222105	DTA 114YS, Silicon, PNP	4	
Q120	2208622108	DTC 114TS, Silicon, NPN	1	
Q121	2208222105	DTA 114YS, Silicon, PNP	1	
Q122-124	2208622108	DTC 114TS, Silicon, NPN	3	
Q125	2208222105	DTA 114YS, Silicon, PNP	1	
Q126-128	2208622108	DTC 114TS, Silicon, NPN	3	
Q129	2208606112	KTD 1302, Silicon, NPN	1	
Q130	2208606114	MPS A 06, Silicon, NPN	1	
Q131	2208206113	KMPS A56, Silicon, PNP	1	
Q132/133	2208622108	DTC 114TS, Silicon, NPN	2	
Q134	2208606112	KTD 1302, Silicon, NPN	1	
Q135	2208606114	MPS A 06, Silicon, NPN	1	
Q136	2208206113	KMPS A56, Silicon, PNP	1	
Q137	2208622108	DTC 114TS, Silicon, NPN	1	
Q138	2208406117	KTC 2236Y, Silicon, NPN	1	
Q139/140	2208622108	DTC 114TS, Silicon, NPN	2	
Q141-Q143	2208406117	KTC 2236Y, Silicon, NPN	3	
Q144/145	2208606114	MPS A 06, Silicon, NPN	2	
Q146-Q148	2208606112	KTD 1302, Silicon, NPN	3	
Q151-Q156	2208622108	DTC 114TS, Silicon, NPN	6	
Q157-Q161	2208606112	KTD 1302, Silicon, NPN	5	
Q162-Q165	2208622108	DTC 114TS, Silicon, NPN	4	
Q166/167	2208606112	KTD 1302, Silicon, NPN	2	
Q168-Q171	2208622108	DTC 114TS, Silicon, NPN	4	
VR101-VR103	2480502434	Res Semi 5K(B), Bias ADJ	4	
VR105-VR106	3248010343	Res Semi 10K(B), FL Level, ADJ.	2	

Ref. No.	Part No.	Description	Q'ty	Version
VR107-VR110	3248010343	Res Semi 10K(B), Bias ADJ	4	
VR111-VR114	3248010343	Res Semi 10K(B), Rec Level, ADJ.	4	
VR115-VR118	3248010343	Res Semi 10K(B), PB Level, ADJ.	4	
P2	**054051010002**	**PCB ASSEMBLY-FRONT**		
25	4658003710	Switch Tact	22	
CNT705	435111162432	Lead Ass'y 11P 160mm	1	
P2-1	**054051010003**	**PCB ASSEMBLY-CPU**		
C701	3439247312	Backup CAP 0.047 uF 5.5V	1	
or	3449347314	Backup CAP 0.047 uF 5.5V		
CNT703	4428526340	Wafer 22P, FPC Elco	1	
CNT704	4428516510	Wafer 6P	1	
CNT705	4428517010	Wafer 11P	1	
CNT707	436209283332	Lead Ass'y 9P 280mm	1	
D713-D723	2058322101	1N 4148M	11	
D724	2258599107	Zener 9.1V(B)	1	
FL701	2328130303	FL Tube (FIP 8CMW24	1	
IC701	2138313205	uPD 75P 212 ACW- W69 (CPU)	1	
R744-R747	3069223970	Carbon Film 22K ohm 1/5W J	4	
R748	3069683970	Carbon Film 68K ohm 1/5W J	1	
X701	3938101880	Resonator CST 4.19MHz	1	
P2-2	**054051010004**	**PCB ASSEMBLY-MOTOR CNTL**		
C702	3479210071	Electic SA 10 uF 50V M	1	
CNT701	4428513800	Wafer 13P, SBRA 13S-1 From A-Deck Mecha	1	
CNT702	4428513800	Wafer 13P, SBRA 13S-1 From B-Deck Mecha	1	
D701-D704	2058322101	1N 4148M, Key Scan	4	
D705	2258100135	1N 4002	1	
D706	2058322101	1N 4148M, Switching	1	
D707-D710	2058322101	1N 4148M, Key Scan	4	
D711	2258100135	1N 4002	1	
D712	2058322101	1N 4148M, Switching	1	
D729-D732	2058322101	1N 4148M, Switching	4	
R705	3069821970	Carbon Film 820 ohm 1/5W J	1	
R706/707	3069473970	Carbon Film 47K ohm 1/5W J	2	
R708	3069821970	Carbon Film 820 ohm 1/5W J	1	
R709	3069432970	Carbon Film 4.3K ohm 1/5W J	1	
R710	3069302970	Carbon Film 3K ohm 1/5W J	1	
R711	3069473970	Carbon Film 47K ohm 1/5W J	1	
R712	3069103970	Carbon Film 10K ohm 1/5W J	1	
R713	3069102970	Carbon Film 1K ohm 1/5W J	1	
R714	3069103970	Carbon Film 10K ohm 1/5W J	1	
R715	3069473970	Carbon Film 47K ohm 1/5W J	1	
R716/717	3069183970	Carbon Film 18K ohm 1/5W J	2	
R718	3069103970	Carbon Film 10K ohm 1/5W J	1	
R719	3069821970	Carbon Film 820 ohm 1/5W J	1	
R720/721	3069473970	Carbon Film 47K ohm 1/5W J	2	
R722	3069821970	Carbon Film 820 ohm 1/5W J	1	
R723	3069432970	Carbon Film 4.3K ohm 1/5W J	1	
R724	3069302970	Carbon Film 3K ohm 1/5W J	1	
R751	3069103970	Carbon Film 10K ohm 1/5W J	1	
R752	3069154970	Carbon Film 150K ohm 1/5W J	1	
Q701/702	2208722100	2SA 1515, Silicon, PNP	2	
Q703/704	2208622106	DTC 114YS, Silicon, NPN	2	
Q705	2208206113	KMPS A56, Silicon, PNP	1	
Q706	2208622106	DTC 114YS, Silicon, NPN	1	
Q707/708	2208722100	2SA 1515, Silicon, PNP	2	
Q709	2208206113	KMPS A56, Silicon, PNP	1	
Q710/711	2208622106	DTC 114YS, Silicon, NPN	2	
Q712-Q715	2208222104	DTA 114TS, Silicon, PNP	4	
Q716/717	2208606112	KTD 1302, Silicon, NPN	2	
Q718	2208622106	DTC 114YS, Silicon, NPN	1	
Q719	2208606104	KTC 3198Y/KTC1815, Silicon, NPN	1	

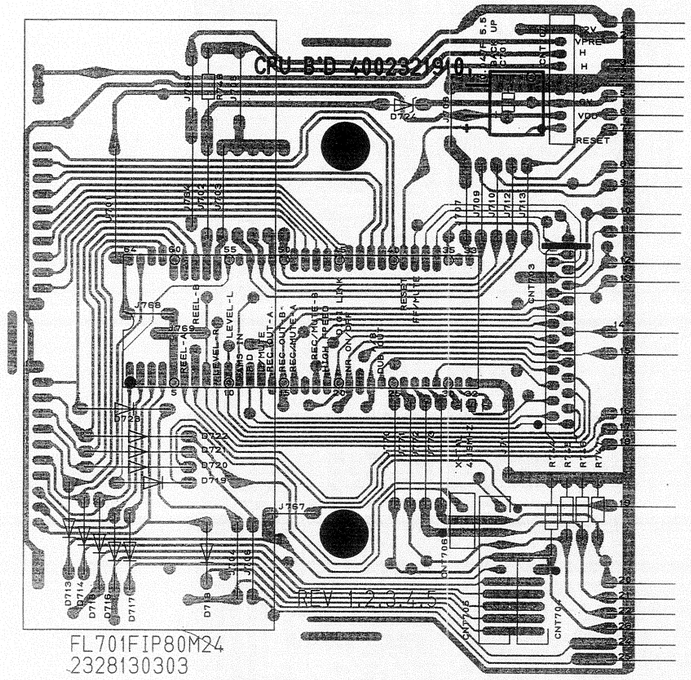
Ref. No.	Part No.	Description	Q'ty	Version
VR701-704	3248020253	Res Semi 2K(B) Speed ADJ.	4	
P2-3	**054051010005**	**PCB ASSEMBLY-POWER**		
34	8543048710	Holder FI, ABS, Black	1	
39	4448103910	Outlet	1	Dom
	4448103210	Outlet	1	A
	4448103610	Outlet	1	D
59	4618006610	Voltage Selector	1	B,Dom
	4255001010	Fuse Clip	2	B,D,G, Dom
	4255001010	Fuse Clip	2	B,P.T.Indo
	4428525790	Wafer AC 3P	1	
F101	⚠ 5508302035	T. 1A/250V	1	D, G
	⚠ 5508201730	NB 0.315A/250V	1	B, D
	⚠ 5508301434	T. 0.315A/250V	1	P.T.Indo
F102	⚠ 5508301734	NB 0.63A/250V	1	B
	⚠ 5508301734	T0.63A/250V	1	P.T.Indo
P4-P5	4228001410	Pin Solder	2	
P2-4	**054051010006**	**PCB ASSEMBLY-MIC**		
47	3208065310	VR REC Level, 100KAX2	1	
48	3208065410	VR REC Balance, 100KSWX1	1	
49	3208065210	VR Mic, 20KWX2	1	
50	4438005620	Jack Mic, Gold	1	
51	6505129110	Blacket Micphone	1	
52	6165145910	Shield Plate	1	
C801L/R	3479247971	Electric SA 4.7 uF 50V M	2	
C802L/R	3519221935	Celamic Tubular 220 pF 50V Z	2	
C803L/R	3479247971	Electric SA 4.7 uF 50V M	2	
C804/805	3479310121	Electric SG 100 uF 10V M	2	
CNT801	436207203332	Lead Ass'y 7P 200mm	1	
CNT803	436103103331	Lead Ass'y 3P 100mm	1	
IC801	2168206103	KIA 4559S, Mic Amp	1	
IC801/802	3069221970	Carbon Film 220 ohm 1/5W J	1	
R802L/R	3069563970	Carbon Film 56K ohm 1/5W J	2	
R803L/R	3069132970	Carbon Film 1.3K ohm 1/5W J	2	
R804L/R	3069104970	Carbon Film 100K ohm 1/5W J	2	
R805L/R	3069104970	Carbon Film 100K ohm 1/5W J	2	
R806L/R	3069102970	Carbon Film 1K ohm 1/5W J	2	
R807	3069682970	Carbon Film 6.8K ohm 1/5W J	1	
R811/812	3069330970	Carbon Film 33 ohm 1/5W J	2	
R813/806	3069203970	Carbon Film 20K ohm 1/5W J	4	
P2-5	**054051010007**	**PCB ASSEMBLY-TACT**		
25	4658003710	Switch Tact	5	
CNT704	436206203332	Lead Ass'y 6P 200mm	1	
P2-6	**054051010008**	**PCB ASSEMBLY-POWER SW**		
21	4628035210	Switch Power	1	
CNT001	436106353331	Lead Ass'y 6P 350mm	1	
R001/002	3069229270	Carbon Film 2.2 ohm 1/4W J	2	
P2-7	**054051010009**	**PCB ASSEMBLY-H/P**		
22	4438005010	Jack Phone	1	
23	6505092310	Bracket Headphone	1	
CNT004	436104263331	Lead Ass'y 4P 260mm	1	
R749/750	3069332970	Carbon Film 3.3K ohm 1/5W J	2	
Q716/717	2208606112	KTD 1302, Silicon, NPN	2	
P2-8	**054050410010**	**PCB ASSEMBLY-TIMER**		**B,D,G,Dom**
20	4618006710	Switch Slide	1	
CNT706	436403353232	Lead Ass'y 3P 350mm	1	
D733	2058322101	1N 4148M, Switching	1	

MAIN P.C.BOARD

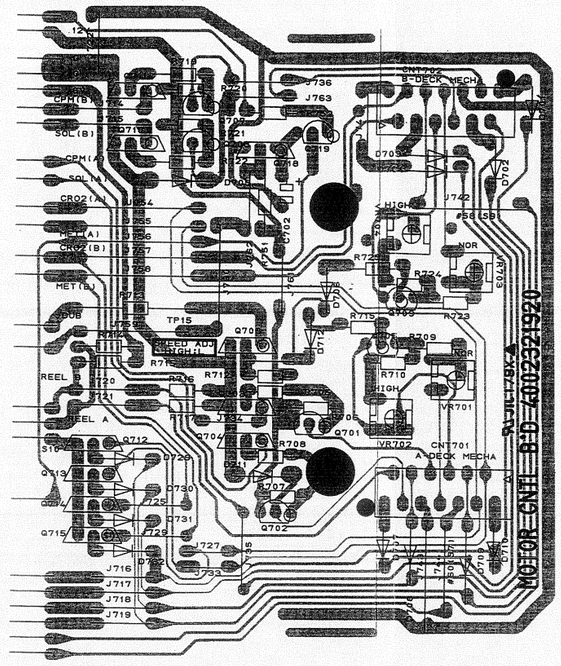
PRINTED CIRCUIT BOARDS



CPU P.C.BOARD

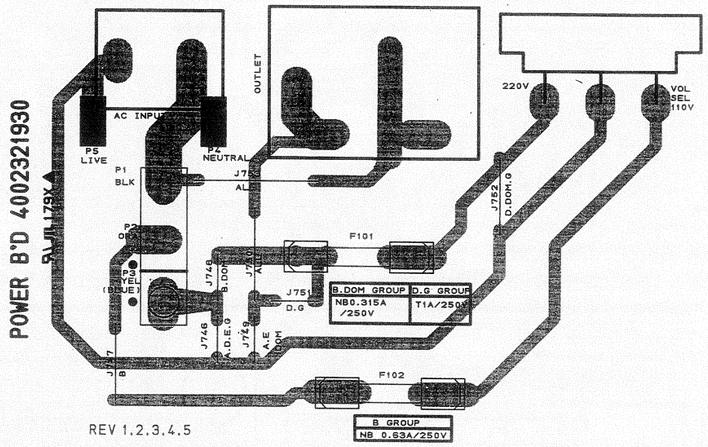


MOTOR CNTL P.C.BOARD

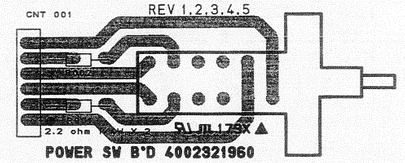


POWER P.C.BOARD

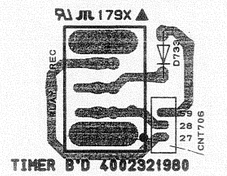
BAR CODE



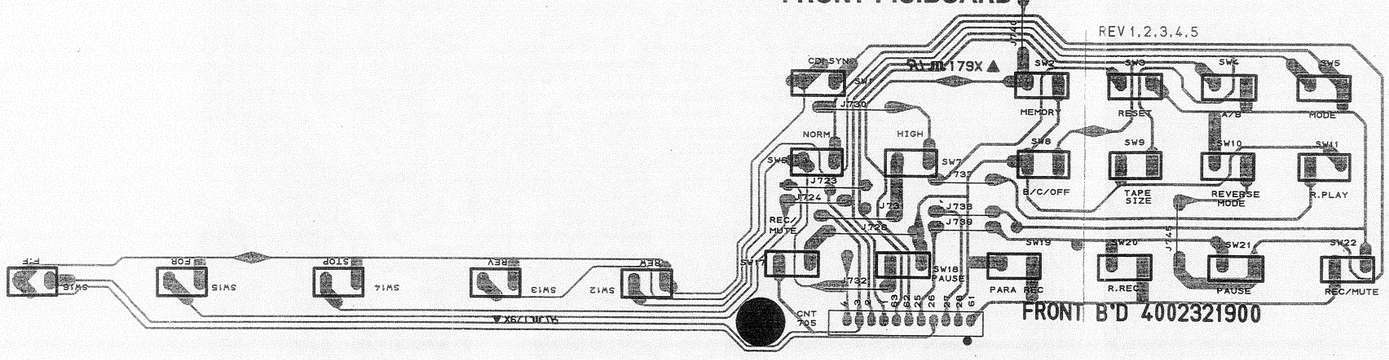
POWER SW P.C.BOARD



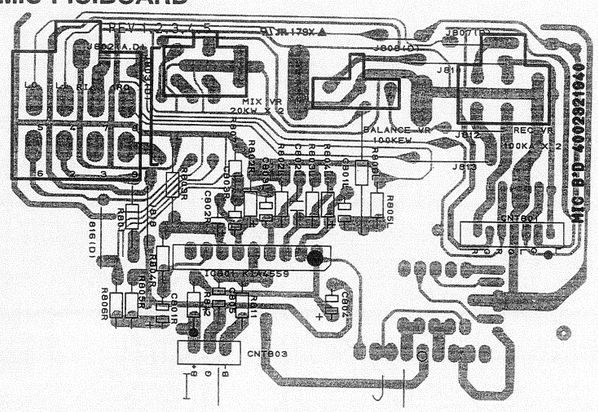
TIMER P.C.BOARD



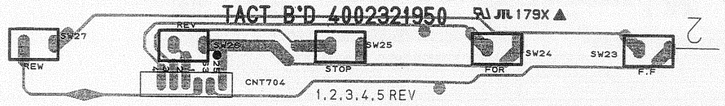
FRONT P.C.BOARD



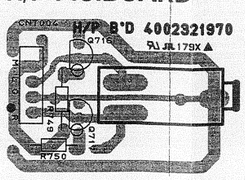
MIC P.C.BOARD



TACT P.C.BOARD

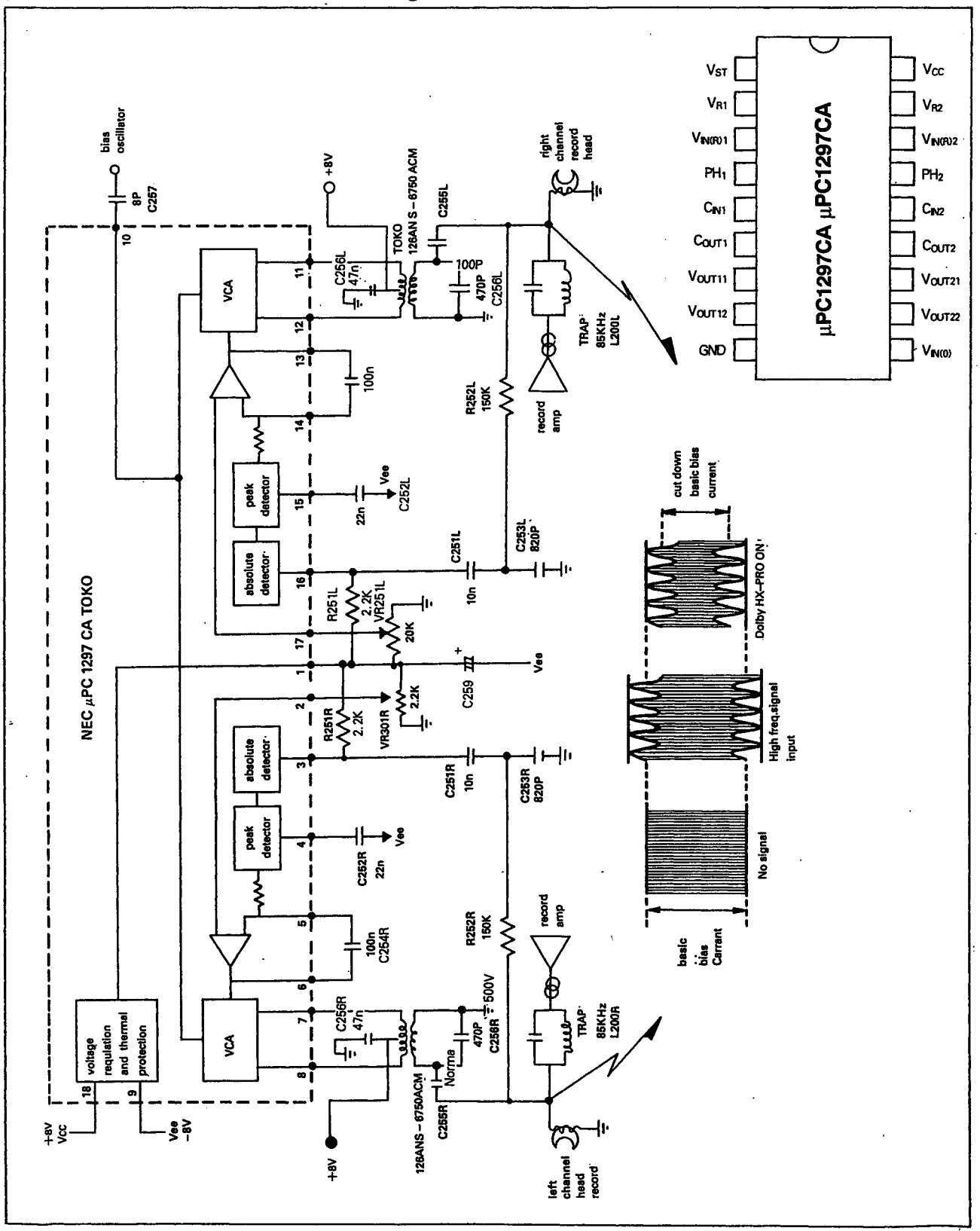


H/P P.C.BOARD

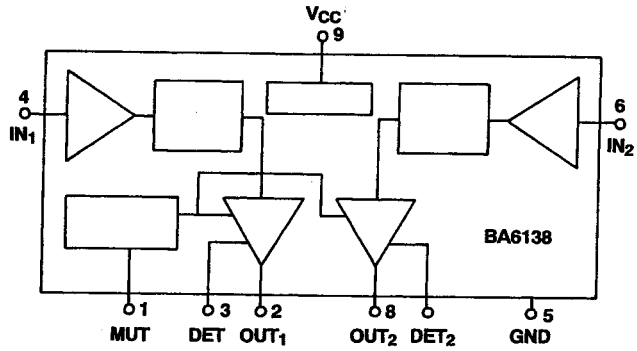


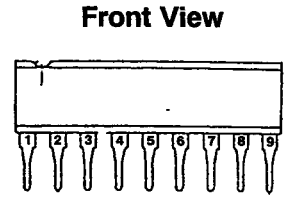
IC's LEAD IDENTIFICATION & INTERNAL DIAGRAM

µPC 1297 CA : IC109 / IC110 Block Diagram

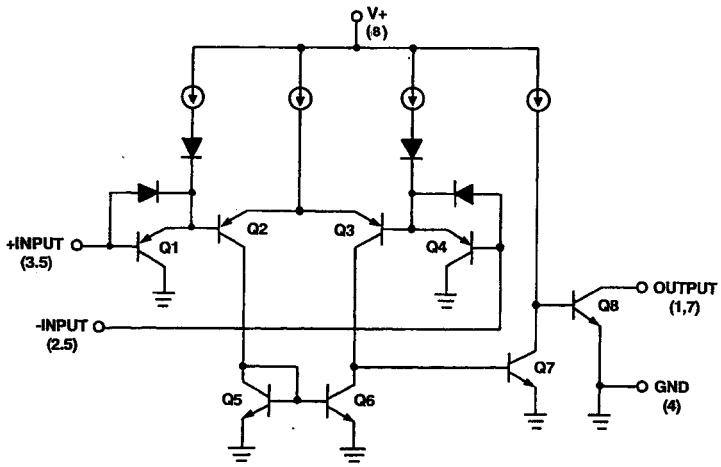


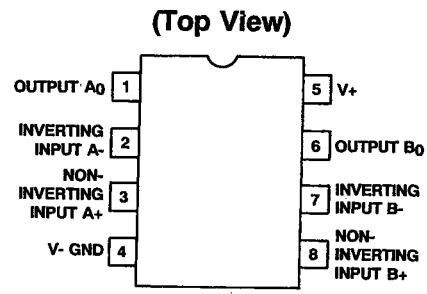
BA6138(FL DRIVER) : IC101 Block Diagram



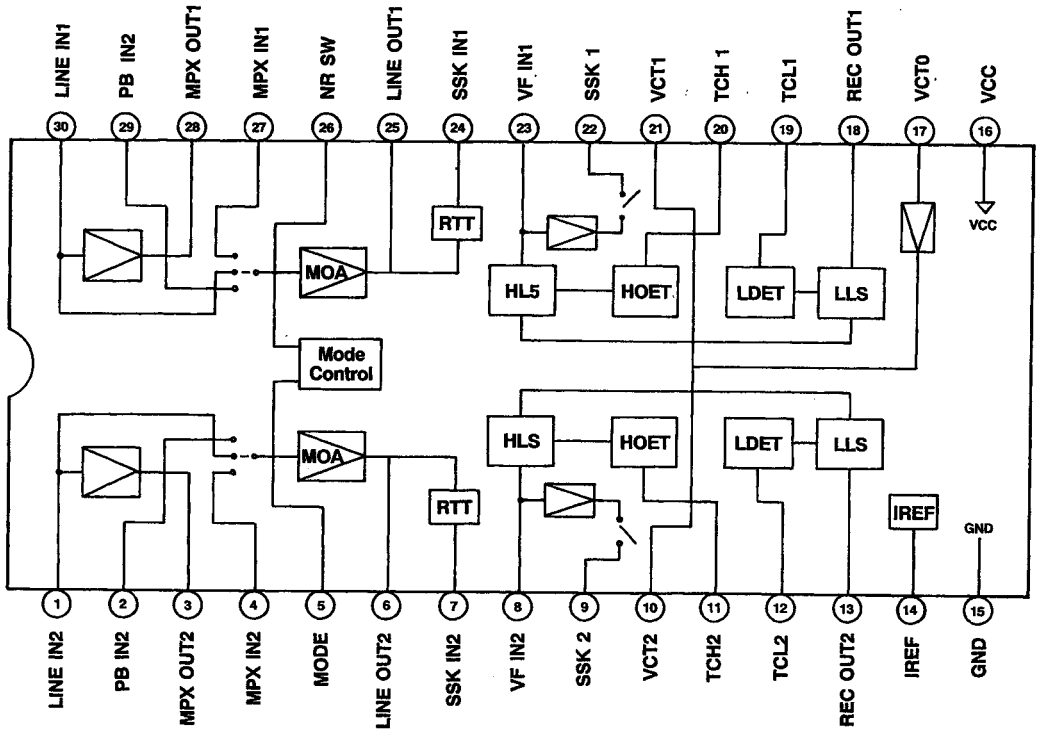


GL393(COMPARATOR) : IC102 Block Diagram





CXA1330S(DOLBY NR) : IC117 Block Diagram



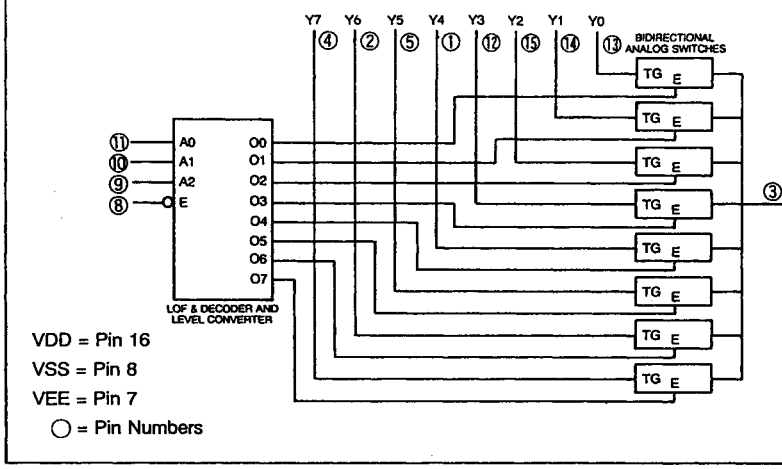
MC14051 or GD4051 : IC108 / IC112

TRUTH TABLE

INPUTS				CHANNELS							
E	A_2	A_1	A_0	Y_0-Z	Y_1-Z	Y_2-Z	Y_3-Z	Y_4-Z	Y_5-Z	Y_6-Z	Y_7-Z
L	L	L	L	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
L	L	L	H	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
L	L	H	L	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
L	L	H	H	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
L	H	L	L	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
L	H	L	H	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
L	H	H	L	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
L	H	H	H	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
H	X	X	X	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

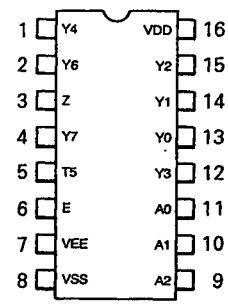
L = LOW Level
H = HIGH Level
X = Don't Care

4051B FUNCTIONAL LOGIC DIAGRAM

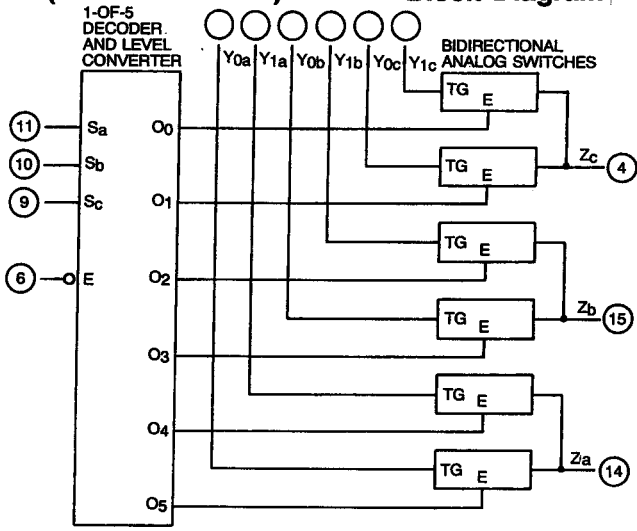

Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0
④ ② ⑤ ① ⑫ ⑮ ⑭ ⑬
BIDIRECTIONAL ANALOG SWITCHES
TG E
⑪ ⑩ ⑨ ⑧
A0 A1 A2 E
O0 O1 O2 O3 O4 O5 O6 O7
③
LOF & DECODER AND LEVEL CONVERTER

VDD = Pin 16
VSS = Pin 8
VEE = Pin 7
○ = Pin Numbers

TOP VIEW



GD4053(A & B DECK SW) : IC118 Block Diagram

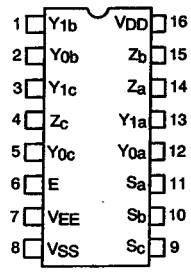


Internal Diagram

TRUTH TALBE

INPUTS		CHANNELS	
E	S	Y_0-Z	Y_1-Z
L	L	ON	OFF
L	H	OFF	ON
H	X	OFF	OFF

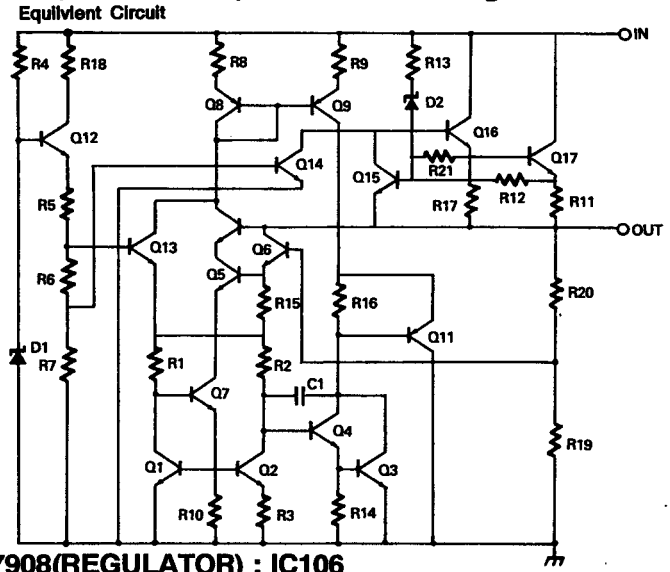
H=HIGH Level
L=LOW Level
X=Don't Care



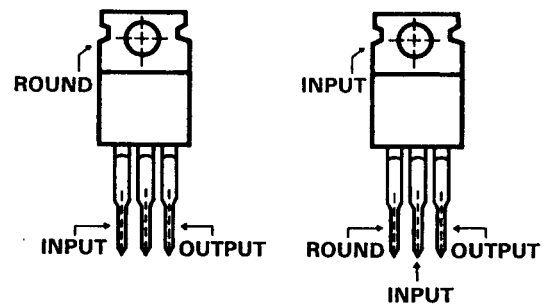
NOTE:
The SO Package has the same pinouts(Connection Diagram) as the Dual In-line Package.

MC7808(REGULATOR) : IC105, KIA7806 : IC103
KIA7812(REGULATOR) : IC104 Block Diagram

Equivlent Circuit



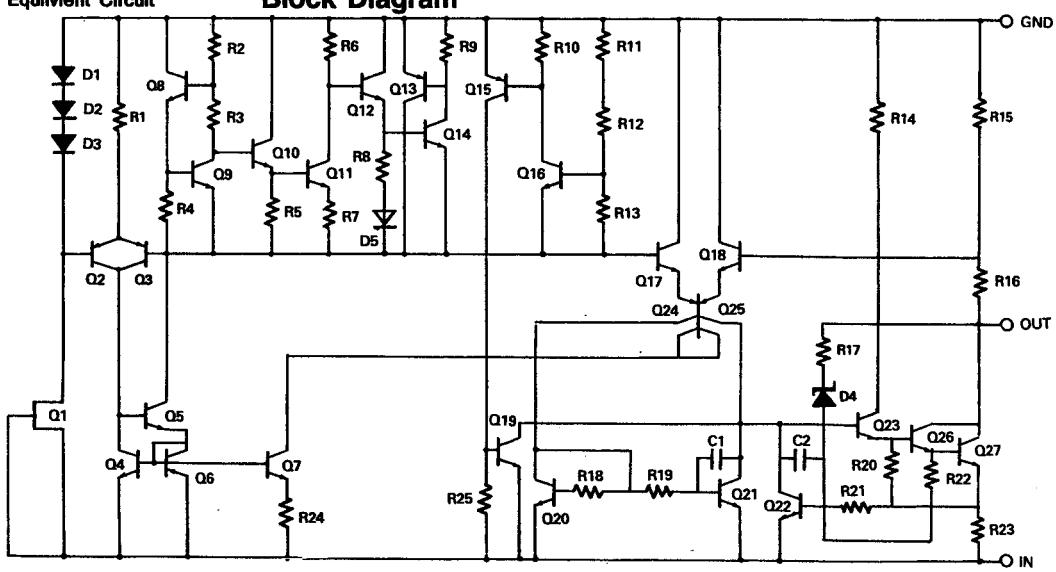
Front View



MC7908(REGULATOR) : IC106

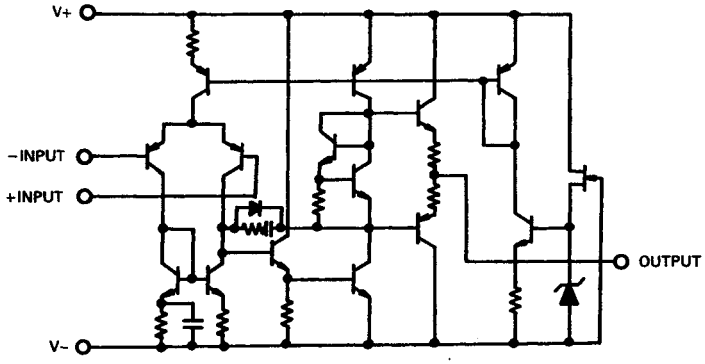
Equivlent Circuit

Block Diagram



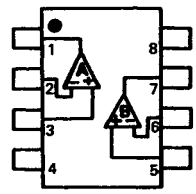
NJM2068-(PB AMP) : IC114 / IC115

Equivalent Circuit



Block Diagram

(TOP VIEW) Internal Diagram

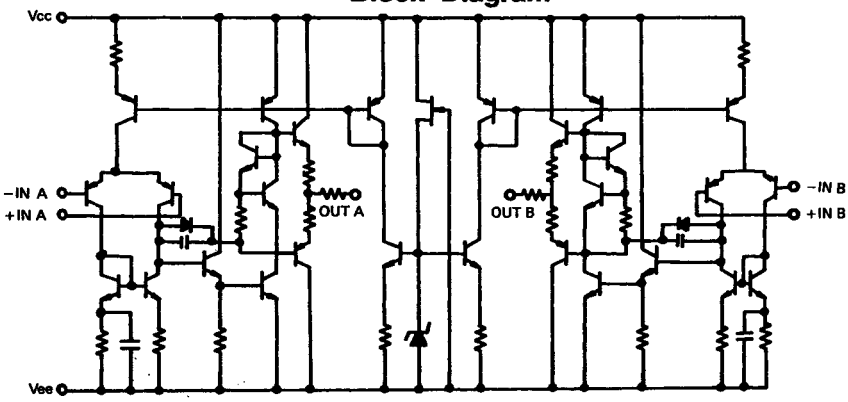


1. A OUTPUT
2. A -INPUT
3. A +INPUT
4. V-
5. B+ INPUT
6. B- INPUT
7. B OUTPUT
8. V+

KIA4559S(6559)-HEAD PHONE AMP : IC107, FL LEVEL ADJ. AMP : IC111 MIC AMP : IC801

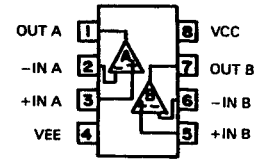
Equivalent Circuit

Block Diagram

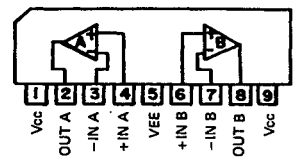


Internal Diagram

KIA 4559P, KIA 4559F

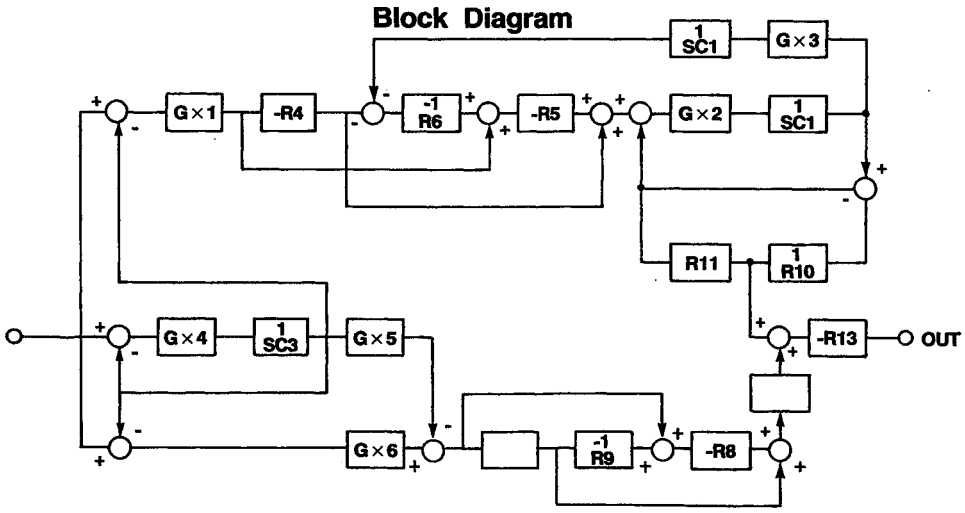


KIA 4559S

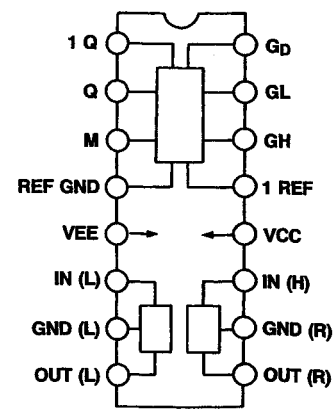


CXA1198AP(REC AMP) : IC113 / IC116

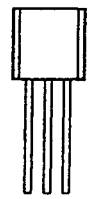
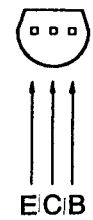
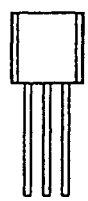
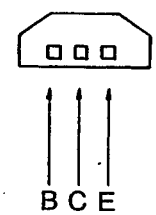
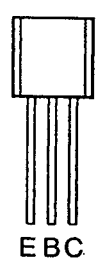
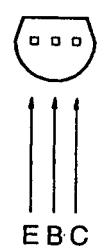
Block Diagram



Internal Diagram



TRANSISTORS LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
KTC1266(1015) KTC3198(1815) KTC2236AY 2SC1515 KTD1302S		
DTC114YS DTC114TS DTA114YS DTA114TS		
MPSA06 MPSA56		

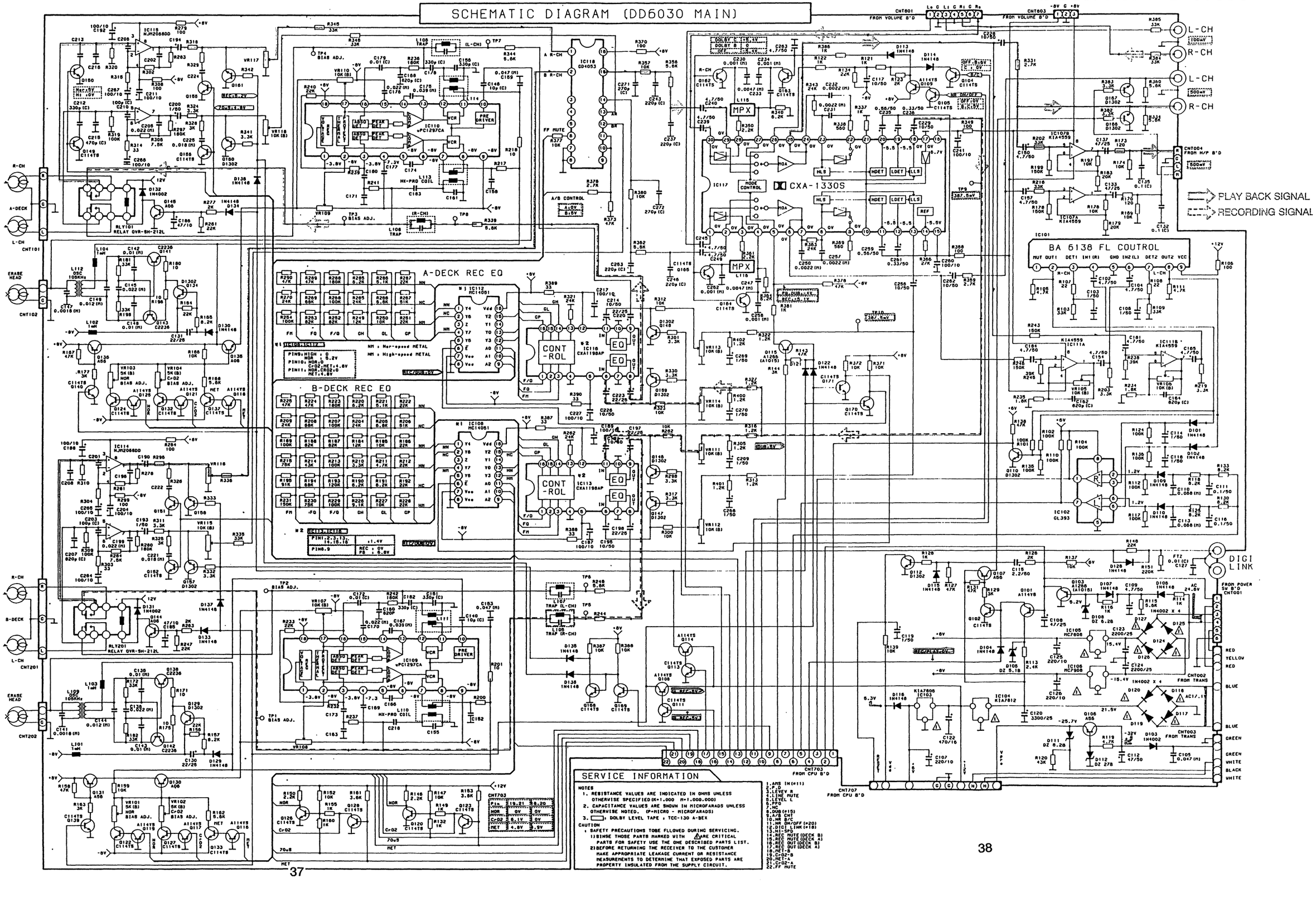
TERMINAL NAME

B → BASE
C → COLLECTOR
E → EMITTER

SCHEMATIC DIAGRAM I

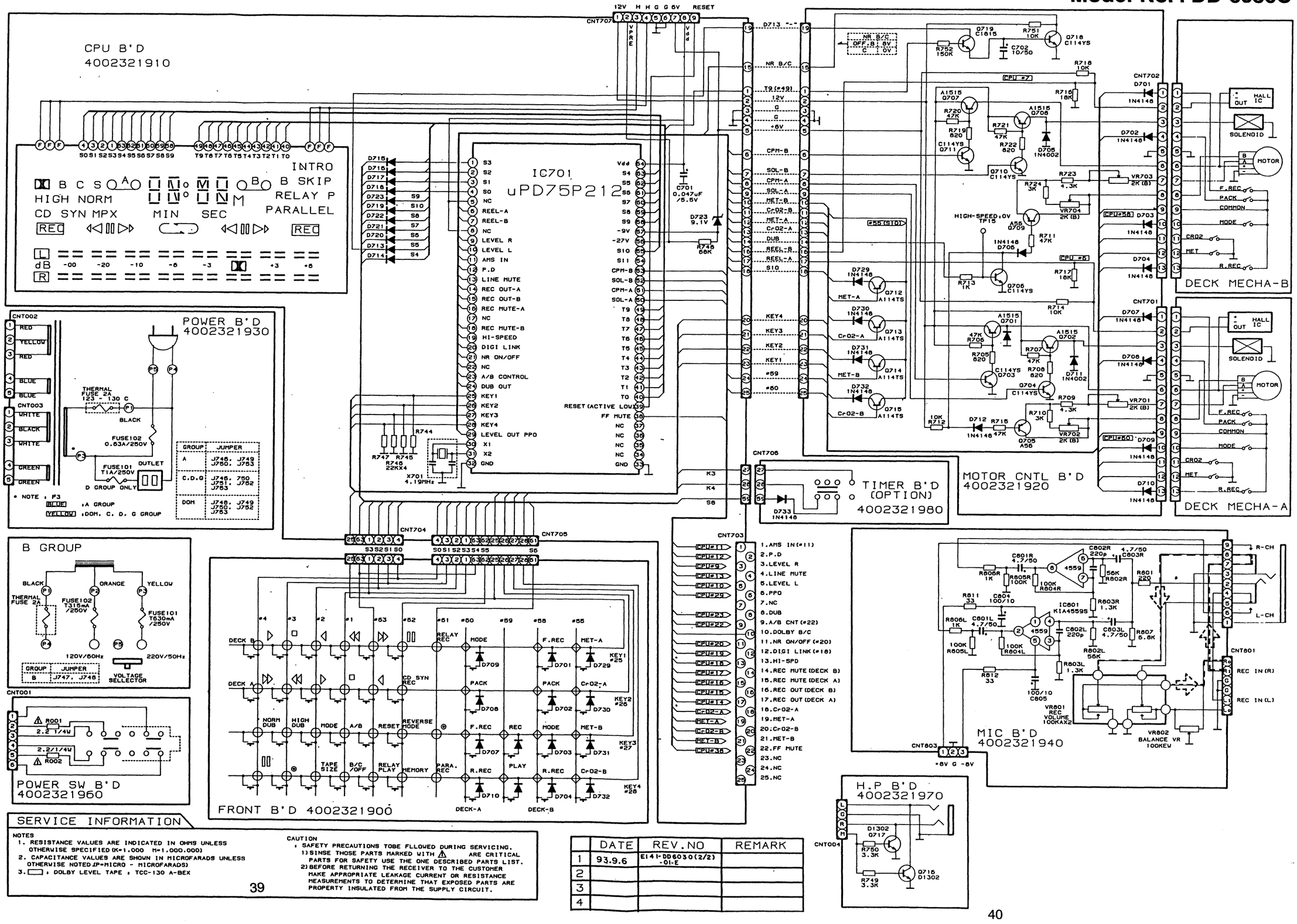
Model No. : DD-6030C

SCHEMATIC DIAGRAM (DD6030 MAIN)



SCHEMATIC DIAGRAM Ⅱ

Model No. : DD-6030C


CPU B'D
4002321910
IC701
uPD75P212
POWER B'D
4002321930
B GROUP
POWER SW B'D
4002321960
FRONT B'D 4002321900
TIMER B'D
(OPTION)
4002321980
MOTOR CNTL B'D
4002321920
MIC B'D
4002321940
H.P B'D
4002321970
DECK MECHA-B
DECK MECHA-A
SERVICE INFORMATION
NOTES
1. RESISTANCE VALUES ARE INDICATED IN OHMS UNLESS OTHERWISE SPECIFIED (K=1,000 M=1,000,000)
2. CAPACITANCE VALUES ARE SHOWN IN MICROFARADS UNLESS OTHERWISE NOTED (P=MICRO - MICROFARADS)
3. ▭ : DOLBY LEVEL TAPE : TCC-130 A-BEX
CAUTION
: SAFETY PRECAUTIONS TOBE FLLOVED DURING SERVICING.
1) SINSE THOSE PARTS MARKED WITH ⚠ ARE CRITICAL PARTS FOR SAFETY USE THE ONE DESCRIBED PARTS LIST.
2) BEFORE RETURNING THE RECEIVER TO THE CUSTOMER MAKE APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE PROPERTY INSULATED FROM THE SUPPLY CIRCUIT.
39
40

	DATE	REV.NO	REMARK
1	93.9.6	E141-DD6030(2/2) -01-E	
2			
3			
4			